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User's Guide to MOBILE3
(Mobile Source Emissions Model)

(U.S.) Environmental Protection Agency
Ann Arbor, MI

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National Technical Information Service

NTIS

USER'S GUIDE
to
MOBILE3
(MOBILE SOURCE EMISSIONS MODEL)

JUNE 1984

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR AND RADIATION
OFFICE OF MOBILE SOURCES
EMISSION CONTROL TECHNOLOGY DIVISION
TEST AND EVALUATION BRANCH
2565 PLYMOUTH ROAD
ANN ARBOR, MICHIGAN 48105

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16. ABSTRACT This document is the User's Guide To MOBILE3. MOBILE3 is a computer program that calculates emission factors for hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) from highway motor vehicles. The program uses the calculation procedures and emission factors presented in <u>Compilation of Air Pollutant Emission Factors: Highway Sources</u>, July 1984 (EPA 460/3-84-005). MOBILE3 calculates emission factors for eight individual vehicle types in two regions of the country. MOBILE3 emission estimates depend on various ambient, vehicle usage, and local conditions such as temperature, speed, mileage accumulation and accrual distributions, vehicle-miles-traveled distributions, etc. MOBILE3 will estimate emission factors for any calendar year between 1970 and 2020, inclusive. The 20 most recent model years are considered in operation in each calendar year. MOBILE3 supercedes MOBILE2. Compared to MOBILE2, MOBILE3 incorporates several new options, calculating methodologies, emission factor estimates, emission control regulations, and internal program designs. As such, MOBILE3 should be easier to maintain, transport, alter and comprehend.		
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DISCLAIMER

Within this final MOBILE3 User's Guide, there are references to a new AP-42 document, Compilation of Air Pollutant Emission Factors: Highway Mobile Sources, August 1984 (EPA 460/3-84-005). This AP-42 document along with further background documentation describing how the MOBILE3 emission factors were derived were not available at the time this manual was released. Once these emission factor documents are available, they will be distributed to the EPA Regional Offices. Copies will be available through the National Technical Information Service in Springfield, Virginia.

Additionally, EPA will not be responsible for the accuracy of MOBILE3 tapes that were received from sources other than EPA in Ann Arbor or NTIS, or for the accuracy of draft MOBILE3 tapes that were released prior to the final MOBILE3 tapes. Further, EPA will not be responsible for the accuracy of MOBILE3 when modified by the user.

ABSTRACT

This document is the USER'S GUIDE to MOBILE3. MOBILE3 is a computer program that calculates emission factors for hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NO_x) from highway motor vehicles. The program uses the calculation procedures and emission factors presented in Compilation of Air Pollutant Emission Factors: Highway Mobile Sources, August 1984 (EPA 460/3-84-005). MOBILE3 calculates emission factors for eight individual vehicle types in two regions of the country. MOBILE3 emission estimates depend on various conditions such as ambient temperature, speed, and mileage accrual rates. MOBILE3 will estimate emission factors for any calendar year between 1960 and 2020, inclusive. The 20 most recent model years are considered in operation in each calendar year. MOBILE3 supercedes MOBILE2. Compared to MOBILE2, MOBILE3 incorporates several new options, calculating methodologies, emission factor estimates, emission control regulations, and internal program designs.

Requests for copies of MOBILE3 and for additional copies of this User's Guide, should be directed to the following:

The National Technical Information Service (NTIS).
U. S. Department of Commerce
Springfield, Virginia 22161
(703) 557-4650

Questions concerning MOBILE3 or this User's Guide should be directed to the following:

Office of Mobile Sources
Emission Control Technology Division
Test and Evaluation Branch
2565 Plymouth Road
Ann Arbor, MI 48105
Attn: MOBILE3
Telephone: (313) 668-4473

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Chapter 1 GENERAL DESCRIPTION OF MOBILE3

1.0 INTRODUCTION

MOBILE3 is an integrated set of FORTRAN routines for use in the analysis of the air pollution impact of highway mobile sources. The system has been designed to provide the user with a flexible yet easy to use analytical tool which can be applied in a wide variety of air quality planning functions. MOBILE3 is an update of its predecessors MOBILE1 and MOBILE2.

This chapter explains the primary technical differences between MOBILE3 and MOBILE2. Instructions on how to use the program are contained in Chapter 2 (MOBILE3 Inputs), Chapter 3 (MOBILE3 Outputs), Chapter 4 (MOBILE3 Implementation), and Chapter 5 (MOBILE3 Examples). This manual also has four appendices: Appendix A (Structure Chart), Appendix B (Module Dictionary), Appendix C (MOBILE3 Source Listing) and Appendix D (Anti-Tampering Program Credit Matrices).

This User's Guide to MOBILE3 does not duplicate any of the items in the User's Guide to MOBILE2 where there have been no changes. For example, the User's Guide to MOBILE2 contains a section on the "General Features of MOBILE2" which is for the most part applicable also for MOBILE3. Although it is possible to run MOBILE3 with this guide alone, the first-time user of the mobile source emission models who is implementing MOBILE3 is strongly encouraged to obtain a copy of the User's Guide to MOBILE2 also for reference. It is available from:

National Technical Information Service
U.S. Department of Commerce
Springfield, VA 22161

Title: User's Guide to MOBILE2
NTIS Ref: PB81205619
Estimated costs (as of 4/1/84)
Paper: \$32.50
Microfiche: \$4.50

1.1 PRIMARY TECHNICAL DIFFERENCES FROM MOBILE2

Two general types of changes differentiate MOBILE3 from MOBILE2. Changes were made to the basic emission rates for certain vehicle types and model years if new data and an analysis of that data demonstrated a need for change. An example is the basic exhaust emission rates for 1981 and later model year light duty vehicles. The other type of change was in the method in which emission rates are estimated by the program. An example of this is tampering. For MOBILE2, misfueling rates and effects

were hard-coded into the zero-mile levels of the emission rates of vehicles with catalysts. In MOBILE3 the hard-coded emission rates reflect zero tampering, and tampering is added as an offset in gm/mi after the untampered emission rate is estimated by the program.

The following discussions will apply to the second type of change discussed above, since these types have had more impact on the source code. Changes of the first type have already been extensively discussed at various Emission Factor Workshops held by the EPA.

1.1.1 Tampering Effects and Anti-Tampering Programs

The effect of misfueling was the only type of tampering that was explicitly included in MOBILE2 emission rates. At the time MOBILE2 was developed, it was felt that misfueling was the only significant form of tampering which the in-use data (on which the emission rates were based) did not adequately reflect. However, prior to the development of MOBILE3, it became evident that other forms of tampering such as catalyst removal might have a significant effect on fleet emission rates. Also, the EPA Tampering Surveys were indicating that certain forms of tampering were more prevalent than the rates found in EPA's in-use emissions data. As a result, MOBILE3 was designed to incorporate a new concept: basic emission rates are estimated for untampered vehicles and the effects of tampering are included as offsets to the basic emission rates. The tampering offsets in gm/mi are estimated from the percentage of vehicles being tampered at a given time and the effects of such tampering.

The types of tampering which are included in fleet MOBILE3 emission rates are presented in Table 1. Any one or more than one type may apply to light duty gasoline vehicles (LDGV's), light duty gasoline trucks 1 and 2 (LDT1's and LDT2's) and heavy duty gasoline vehicles (HDGV's), where applicable by vehicle and technology type.

Table 1
Types of Tampering Included in
MOBILE3 Emission Rates

1. Misfueling (other than fuel inlet disablement)
2. Fuel Inlet Disablement
3. Catalyst Removal
4. EGR
5. Evaporative Canister
6. PCV System (vacuum hose)
7. Air Pump

An analysis of the frequency of the above types of tampering indicated that as cars get older and accumulate more mileage, they experience more disablements. To account for this, the frequency of disablements are assumed to grow at a linear rate with mileage. The emission effects of

each disablement were estimated from testing of in-use and test vehicles. These effects are assumed to be independent of the mileage at which a vehicle is disabled.

The tampering frequencies incorporated into MOBILE3 are based on national averages for non-I/M and I/M areas separately. Users have the option to input local rates.

MOBILE3 also has the capability to take into account the effects of various anti-tampering programs (ATP's). The characteristics of various kinds of ATP's were discussed in the EPA technical report "Anti-Tampering and Anti-Misfueling Programs to Reduce In-Use Emissions From Motor Vehicles", December 31, 1983 (EPA-AA-TSS-83-10). The credits for the kinds of programs discussed in the above technical report are found in Appendix D and also on the MOBILE3 tape following the MOBILE3 source code. Users who plan to model the effects of an ATP should first obtain and read the above technical report*. The actual credits given to any ATP, however, must be determined in consultation with the EPA staff listed below:

U.S. Environmental Protection Agency
Field Operations and Support Division EN-397F
401 M Street, S.W.
Washington, DC 20460
(202) 382-2640

Table 2 provides a general road map for other information in this User's Guide pertaining to anti-tampering programs.

* Available from the Technical Support Staff, EPA, Ann Arbor, Michigan, 48105, (313) 668-4367.

Table 2
Sections Containing Information on
Anti-Tampering Programs in MOBILE3

<u>Chapter</u>	<u>Section</u>	<u>Information</u>
2	2.1.3.2	Discusses the input flag settings necessary to include the effects of an ATP.
	2.2.4	Discusses entering ATP characteristics such as start model year in ONE-TIME DATA, and inputting of credit matrices.
3	3.2.8	Discusses range checking errors on ATP inputs.
4	4.1	Discusses the MOBILE3 tape and location of ATP credits.
Appendix	D	Copy of all ATP credits.

1.1.2 Low Temperature CO Offset Model

MOBILE2 used a log-linear equation to correct the emissions of vehicles at different temperatures. The basic emission rates in both MOBILE2 and MOBILE3 are based on emission data collected during the Federal Test Procedure (FTP). The allowed ambient temperature range for the FTP is 68°F to 86°F, but typically it is very close to 75°F.

The MOBILE2 correction factor equation is:

Correction Factor = $K \cdot \exp(T-68)$, where

K = constant

T = Temperature

68 = lower end of the FTP temperature range. 86 was used for estimating emissions at temperatures above the FTP temperature range (68°F to 86°F).

MOBILE2 used a separate factor (K) for each mode of operation (cold-start, stabilized, hot-start).

For MOBILE3 new data were collected on in-use 1980 and 1981 vehicles. These data revealed that an additive model would better represent the temperature correction than a multiplicative log-linear model for cold-start CO emissions. The existing log-linear model was still acceptable

for stabilized and hot-start CO and all modes of operation for HC and NO_x. MOBILE3 was reprogrammed to accommodate the offset model for cold-start CO emissions. MOBILE3 calculates a cold-start CO offset with the equation:

$$\text{Offset(gm/mi)} = (-1.3812 \text{ g/mi/}^{\circ}\text{F}) * (T-75)$$

Note that emissions are now referenced from 75°F instead of 68°F. The mean ambient temperatures associated with the vehicles tested for MOBILE3 were 75°, 50°, and 20°. When a model of emissions was constructed through these temperatures it resulted in a small but significant offset at 68° relative to 75°. To avoid the improper prediction of emissions based on these models between 68°F and 86°F, the low and high reference temperatures were changed to 75°F for the CO offset and the log-linear models.

1.1.3 Methane Offsets

MOBILE2 used fractions to estimate nonmethane hydrocarbon (NMHC) emissions from total hydrocarbon emissions. For example, 1975-80 NMHC emissions were estimated to be 87% of the total hydrocarbon (THC) emissions from 1975-80 vehicles. The fraction approach assumes that there is significant deterioration in methane emissions with mileage or age.

The MOBILE3 analysis of NMHC emissions revealed that there is little if any deterioration in methane emissions with mileage. Therefore, methane offsets were developed for all model years and vehicle classes. Nonmethane emissions in MOBILE3 are now estimated as the difference between total hydrocarbon emissions which include deterioration with mileage, and the methane offsets which are constant regardless of mileage.

1.1.4 Inspection and Maintenance Test Procedures and Standards

The Inspection and Maintenance (I/M) benefits for 1981 and later light duty gas vehicles are changed from what they were in MOBILE2. In addition, there is a new methodology for specifying I/M program characteristics in estimating benefits for these model years. The methodology for previous model years is the same as in MOBILE2.

The Identification Rate (IDR) was used in MOBILE2 to calculate I/M benefits of 1981 and later LDGV's. The IDR was the percent of primary failures identified by the I/M program, and was based on the type of short test and cutpoints used. Benefits were available for IDR's ranging between 50-90%.

For MOBILE3, the actual IDR's based on test data of 1981 and later vehicles are represented by I/M test types and I/M emission standards. Instead of inputting an IDR for 1981 and later vehicles, users may now select from three test types and emission standard scenarios. These choices are shown in Table 3.

Table 3
I/M Test Types and Emission Standard Scenarios

<u>Test Type</u>	<u>Emission Standards (CO %/HC ppm)</u>
Idle	0.5/100
	1.2/220
	3.0/300
2500/Idle	0.5/100
	1.2/220
	3.0/300
Loaded/Idle	0.5/100
	1.2/220
	3.0/300

Users who are estimating the benefits of I/M should choose the above scenario that most closely resembles the planned or actual annual I/M program they are modeling. Users who plan to estimate I/M benefits of programs less stringent than those above should seek additional guidance from:

Technical Support Staff
Environmental Protection Agency
2565 Plymouth Road
Ann Arbor, Michigan 48105
(313) 668-4374

1.1.5 Heavy Duty Diesel Vehicle Mileage Accumulation

MOBILE2 used a single vehicle miles traveled (VMT) versus age curve for heavy duty diesel vehicles which was based on the VMT characteristics of Class 7 and Class 8* diesel trucks. These trucks are used in many over-the-road highway applications, and thus have very high VMT per year.

In 1982, truck manufacturers started selling diesel trucks in the 2B class (8,500-10,000 lbs. GVW). Sales in this class are expected to continue to grow. The net result is that the average GVW of a diesel truck is changing, and it is no longer appropriate to assume that all diesel trucks have VMT accumulation rates like Class 7 and 8 trucks. The Class 2B diesels being sold probably have VMT characteristics much more like Class 2 gasoline trucks.

* Class 7 trucks are those with GVW's in the 26,000-33,000 lb. range. Class 8 trucks are those with GVW's in excess of 33,000 lbs.

This evolution of truck VMT is handled in MOBILE3 by re-estimating the VMT distributions used for heavy duty diesel vehicles in every calendar year.* Four VMT distributions for heavy duty diesel vehicles (one each for Class 2B vehicles, Class 3-5 vehicles, Class 6 vehicles, and Class 7-8 vehicles) are present in the block data. A new subroutine has been added (HDDMYM) to MOBILE3 which weights these VMT distributions together by the registration fractions of each vehicle class category in each calendar year. Registration projections by class category are made for the years 1980-2020. The pre-1980 calendar year distributions are assumed to be the same as the 1980 distribution.

MOBILE3 does not have the option of allowing users to input separate VMT distributions for these different weight classes of heavy duty diesel vehicles via the ONE-TIME DATA Section. Users do have the option, however, of inputting a single heavy duty diesel mileage distribution in the ONE-TIME DATA Section, which is then applied to all calendar years. This is the same as in MOBILE2.

1.1.6 Elimination of California-Specific Emission Rates

MOBILE2 had the capability to estimate emissions for California as well as high altitude and low altitude 49-state emissions. California-specific emission rates were based on the California emission standards and technologies found in California. Due to resource considerations and the fact that California has its own in-use emission model (the current version is "EMFAC7"), this option was dropped for MOBILE3, and all data blocks and computer code related to the estimation of California emission rates were deleted.

* A similar change was not made for heavy duty gasoline vehicles because of the similarity of mileage accumulation rates between different weight classes.

Chapter 2 MOBILE3 INPUTS

2.0 INTRODUCTION

MOBILE3 uses approximately the same data set as MOBILE2 to supply program control information and data describing the scenarios for which emission factors are to be calculated. However, two new flags have been added, three have been deleted, two have had options removed, and the rest have had their value ranges shifted. Users who have not had experience with MOBILE2 should refer to the User's Guide to MOBILE2 for additional information.

2.1 CONTROL SECTION CHANGES

2.1.1 Deletions

INFLAG, TRKFLG and UNFFLG (records 3, 10, 16) were left in the MOBILE2 code to allow the user to continue to execute MOBILE1 input streams in MOBILE2. However, the addition of two new flags and the alteration of two others for MOBILE3 resulted in an input stream that was again different from MOBILE2. It was decided that upward compatability of the input streams to the new model was no longer practical. Therefore, INFLAG, TRKFLG and UNFFLG were removed.

2.1.2 Changes

2.1.2.1 ALTFLG (Record 7)

This flag was renamed "NEWFLG". Its function of inputting new or alternate emission rates was not changed.

2.1.2.2 IMFLAG (Record 8)

A slight change was made to this flag to conform to changes also made in the I/M ONE-TIME DATA section. The MOBILE2 options were:

- 0 - No I/M program.
- 1 - MOBILE2 supplied I/M credits.
- 2 - User inputs I/M credits.

There are only two options in MOBILE3:

- 1 - No I/M program.
- 2 - I/M program.

Further instructions on the use of option 2 for IMFLAG are found in the discussion of ONE-TIME DATA.

2.1.2.3 IFORM (Record 11)

The descriptive output format from MOBILE1 has been eliminated because every feature of this output (and some further enhancements) is available in the MOBILE3 112 column descriptive output format. However, the MOBILE1 numeric output format has been retained. The MOBILE3 output format options are:

- 1 - MOBILE1 numeric output format.
- 2 - MOBILE2 numeric output format.
- 3 - MOBILE3 112 column descriptive output format.
- 4 - MOBILE3 80 column descriptive output format.

2.1.2.4 Range Changes

The options for the following flags have remained the same, but the code values to select them have been altered to always start at 1, instead of 0: IPROMT, SPDFLG, VMFLAG, NEWFLG, ALHFLG, PRTFLG, ICEVFG, and NMHFLG. See Tables 8-9 for the MOBILE3 code values.

2.1.3 New Flags

2.1.3.1 TAMFLG

A new flag, TAMFLG, has been put in place of the MOBILE2 INFLAG (Record 3). It is used to select the tampering rates used by the MOBILE3 program. The options are:

- 1 - Use default national average tampering rates already in MOBILE3.
- 2 - User supplies a replacement set of rates.

Two things should be noted about the use of option 2 for TAMFLG. First, since EPA has found that tampering rates increase with mileage and has structured MOBILE3 around this concept, the user must input the intercept (ZMLTAM) and slope (DRTAM) of each tampering rate as a function of mileage. This information should be based on local survey data. Second, TAMFLG works in conjunction with IMFLAG. EPA has found that tampering rates are lower in I/M areas than in non-I/M areas (or after the start of an I/M program as compared to before I/M). Therefore, if TAMFLG is set at 2 and IMFLAG at 2, the user must input both non-I/M and I/M tampering rates. If TAMFLG is 2 and IMFLAG is 1, only the non-I/M rates will be expected by the program. This is further illustrated in the MOBILE3 examples 2 and 5.

2.1.3.2 ATPFLG

A new flag ATPFLG has replaced TRKFLG (Record 10). This flag controls whether the program estimates the effects of an anti-tampering program (ATP). The options are:

- 1 - No anti-tampering program.
- 2 - User specifies an anti-tampering program.

The selection of option 1 tells the program that the emission rates should not include the effects of any ATP. The selection of option 2 tells the program that the effects of an ATP are to be included, and that four 11x11 credit matrices will be inputted by the user in the ONE-TIME DATA section. These credits will allow the program to estimate the effects of the ATP. The credit matrices that have been developed by EPA are present on the MOBILE3 tape; however, users who plan to estimate the effects of an ATP should consult with the EPA at the address listed in Section 1.1.1 before using any of the credit matrices.

2.2 ONE-TIME DATA SECTION

The ONE-TIME DATA Section contains information which is input only once in MOBILE3. This input information is used to alter the internal MOBILE3 estimates to be locality dependent. For example, a user can incorporate VMT, mileage accrual and/or registration distributions that are specific to the area of concern. These records are optional, their use being dictated by the values of some of the flags in the CONTROL Section. If any of these records are included in the input, they follow immediately after the CONTROL Section in the order in which they are described below.

The ONE-TIME DATA Section will be included if one or more of the following MOBILE3 options is selected:

- 1. The user wishes to input local tampering parameters (TAMFLG=2).
- 2. The user wishes to supply a VMT mix which will be applied to all emission factor calculations (VMFLAG=3).
- 3. The user wishes to use local mileage accumulation and/or registration distributions (MYMRFG=2, 3, or 4).
- 4. The user wishes to modify the basic exhaust emission rates used in the calculation of the emission estimates (NEWFLG=2).
- 5. The user wishes to include Inspection/Maintenance credits in the emission factor calculations (IMFLAG=2).
- 6. The user wishes to modify the average number of trips per day and miles per day for the calculation of evaporative HC emissions (ICEVFG=3 or 4).
- 7. The user wishes to include the effects of an anti-tampering program in the emission rates (ATPFLG=2).

Only items 1 and 7 were not present in MOBILE2.

The data requirement order in the ONE-TIME DATA Section is the same order as the associated flags in the CONTROL Section.

2.2.1 Local Tampering Parameters

Certain combinations of TAMFLG and IMFLAG require the input of local tampering parameters into ONE-TIME DATA. These combinations are summarized in Table 4.

Table 4
Combinations of TAMFLG and IMFLAG Which Require
Input of non-I/M and I/M Local Tampering Data

<u>TAMFLG</u>	<u>IMFLAG</u>	<u>Non-I/M Tampering Data</u>	<u>I/M Tampering Data</u>
2	1	Yes	No
2	2	Yes	Yes

Data to be entered are the zero-mile percentages of tampering and the percent increases in tampering for each tampering item per 10,000 (10K) miles. There are seven categories of tampering (presented previously in Table 1) for four vehicle types (LDV's, LDT1's, LDT2's and HDGV's). The format for the zero-mile levels is 7F8.4 and the format for the slopes is 7F9.5. For further detail, see Examples 2 and 5 in Chapter 5.

2.2.2 Emission Factor Modifications

These are entered exactly as in MOBILE2. However, because the default emission rates have been changed for MOBILE3, the number of equations allowed for the various classes and regions have changed. Also, the array sizes have all been increased from 15 to 20. Table 5 is a summary of the number of alternative equations that can be entered into MOBILE3.

Table 5
Number of Alternative Equations That Can be
Entered in MOBILE3 by Pollutant, Region
(Low Altitude/High Altitude), and Vehicle Type

<u>Vehicle Type</u>	<u>HC</u>		<u>CO</u>		<u>NOx</u>	
	<u>LO</u>	<u>HI</u>	<u>LO</u>	<u>HI</u>	<u>LO</u>	<u>HI</u>
LDGV	8	6	7	5	7	6
LDGT1	10	7	9	7	12	8
LDGT2	12	11	11	11	13	11
HDGV	5	5	5	5	5	5
LDDV	14	12	14	12	12	12
LDDT	17	15	17	14	16	13
HDDV	7	7	7	7	7	7
MC	17	17	17	17	17	17

2.2.3 Inspection/Maintenance Data

If IMFLAG (Record No. 8) has the value 2, the user must input one record describing the I/M program characteristics. The nine required characteristics are listed below followed by allowable ranges in parentheses:

1. Last two digits of year of I/M program implementation (60-99, 00-20).
2. Stringency level of I/M program (10-50).
3. Mechanic training flag, indicating whether mechanic training is an integral part of the I/M program (1=No/2=Yes).
4. Earliest model year included in I/M program (41-99, 00-20).
5. Latest model year to be included in the I/M program (41-99, 00-20, but not earlier than value in item 4).
6. The type of vehicles to be affected by I/M.
 - 1 - LDGV.
 - 2 - LDGV and LDGT1.
 - 3 - LDGV and LDGT2.
 - 4 - LDGV and LDGT1 and LDGT2.
7. The type of I/M test being implemented for 1981 and later light duty vehicles. The choices are:

ITEST: 1 = Idle Test.
 2 = Two-Speed Idle Test.
 3 = Loaded Test.
8. The standards used in conjunction with the I/M short test for 1981 and later light duty vehicles. The choices are:

ICUTS: 1 = 0.5% CO/100 ppm HC.
 2 = 1.2% CO/220 ppm HC.
 3 = 3.0% CO/300 ppm HC.
9. The data flag which indicates whether or not alternative I/M credits are used in the MOBILE3 analysis. If this flag has a value greater than zero, new I/M credit data need to be supplied on Unit 4. The new I/M credit data are generated by EPA from an I/M applications simulation package. The possible values for the alternative I/M data flag are as follows:
 - 1 - No alternative I/M credits.
 - 2 - Alternative Technology I and II I/M credits.
 - 3 - Alternative Technology IV I/M credits.
 - 4 - Alternative I/M credits for all Technologies.

Items 4 and 5 give the user the capability of excluding a specified range of model years from the I/M program. If all years are included in the program, the last two items should be given the values 41 and 20, respectively.

The format of the entire record is I2,1X,I2,1X,I1,1X,I2,1X,I2,1X,I1,1X,I1,1X,I1,1X.

Program Characteristics - If the ninth I/M characteristics flag is set at either 2, 3, or 4, the data file containing these alternate I/M credits must be attached to logical input/output device number 4 in the users runstream. For additional information on the logical input/output device numbers, see Chapter 4 "MOBILE3 Implementation".

If users in a locality have an I/M program that cannot be simulated with the existing I/M software in MOBILE3, they should contact the Technical Support Staff of the U.S. EPA in Ann Arbor, Michigan, for alternate I/M credits. It is recommended that users not alter the MOBILE2 I/M credits without the guidance of the Technical Support Staff.

2.2.4 Anti-Tampering Program Data

If ATPFLG has the value of 2, MOBILE3 will assume an anti-tampering program is to be simulated and will require the addition of anti-tampering program characteristics in the ONE-TIME DATA section of the input sequence. The four required characteristics are listed below.

1. Last two digits of the year of ATP implementation (60-99, 00-20).
2. First model year included in ATP (41-99, 00-20).
3. Last model year included in ATP (41-99, 00-20).
4. Vehicle classes covered by ATP. If a vehicle class is covered, the value must be 2, if not, the value must be set at 1. Four vehicle classes can be covered: LDGV's, LDGT1's, LDGT2's, and HDGV's. See below.

<u>Class</u>	<u>Not Covered</u>	<u>Covered</u>
LDGV	1	2
LDGT1	1	2
LDGT2	1	2
HDGV	1	2

The format of this record is I2,1X,I2,1X,I2,1X,I4.

Effectiveness Credit Data - Since no ATP credits are stored in MOBILE3, the data file containing these credits must be attached to logical input/output device 3 in the user's runstream.

Anti-tampering credits represent the fraction of excess emissions due to tampering and misfueling which remain after the start of a program to reduce tampering and/or misfueling. These credits are found in Appendix D and on the MOBILE3 tape, however, selection of any particular credit block must be made in consultation with EPA.

Appendix D and the MOBILE3 tape contain credits for many possible program options. These options include programs which inspect:

- Annually
- Biennially
- Upon Change-of-Ownership
- Random Audits of 1%, 2%, and 5% of the fleet.

Each option may include the inspection of a combination of one or more items. The options which EPA has already determined credits for are shown in Table 6. Other options can be determined by EPA on a case-by-case basis. In each option it is assumed that all disabled or missing emission control equipment is repaired or replaced, without cost waivers. Also, if either the fuel inlet restrictor has been tampered to allow entry of a leaded fuel nozzle or the lead sensitive test paper detects lead deposits in the tailpipe, it is assumed that the catalyst is replaced.

Table 6
Inspection Combinations for Which EPA
Has Determined ATP Credits*

- Air Pump Only
- Air Pump and Catalyst
- Air Pump and Catalyst and Fuel Inlet
- Catalyst Only
- Catalyst and Fuel Inlet
- Catalyst and Fuel Inlet and Lead Deposit Test
- Air Pump and Catalyst
- Air Pump and Fuel Inlet and Lead Deposit Test

The anti-tampering program credits consist of a single line of factors for PCV and evaporative canister systems followed by four 11x11 arrays representing credits for HC/CO emissions and NO_x emissions separately for tampering and misfueling occurring before and subsequent to the date the anti-tampering program begins as specified in the ONE-TIME DATA section. When a unity matrix (zeros with a major diagonal line of 1.0) is inputted, the anti-tampering program has no effect on emissions. Each of the eleven rows and columns represent a unique combination of the tampering and misfueling types modeled in MOBILE3.

* All of the combinations can easily include either the PCV check or the evaporative canister check or both.

Each set of anti-tampering credits will depend on the type of anti-tampering program proposed, so that an area investigating several program options would require several different sets of anti-tampering credits specific to each of the program options. Since there is assumed to be overlap between types of tampering and misfueling behavior, the sum of the benefits from two separate program options might not necessarily be the same as the combination of the two options into a single program. EPA should be consulted if such a combination is proposed.

An anti-tampering program with a common set of program requirements for all covered model years (e.g., inspection for catalyst presence), and no program requirements for exempted model years requires only one 45 line set of anti-tampering credits. The vehicle class of model year coverage is specified in the ONE-TIME DATA section. In order to evaluate an anti-tampering program which has different program requirements depending on vehicle model year or vehicle type (e.g., air pump subsystem on all model years and catalyst inspection only on 1981 and later model years) a 45-line set of anti-tampering credits would be required for each set of program requirements applicable to a model year group or vehicle type group, and separate MOBILE3 runs would be required to evaluate each part of the program.

2.3 PARAMETER SECTION

There are no changes in this Section from MOBILE2.

2.4 SUMMARY OF MOBILE3 INPUT SEQUENCE

Table 7 is an input record sequence summary for all flags in MOBILE3. Tables 8-10 summarize all options for each of the flags for MOBILE3.

Table 7
MOBILE3 Input Record Sequence Summary

<u>Input Record Sequence</u>	<u>Section</u>
1 IPROMT FLAG record	CONTROL
1 PROJID record	CONTROL
1 TAMFLG FLAG ¹ record	CONTROL
1 SPDFLG FLAG ¹ record	CONTROL
1 VMFLAG FLAG ¹ record	CONTROL
1 MYMRFG FLAG ¹ record	CONTROL
1 NEWFLG FLAG ¹ record	CONTROL
1 IMFLAG FLAG ¹ record	CONTROL
1 ALHFLG FLAG ¹ record	CONTROL
1 ATPFLG FLAG ¹ record	CONTROL
1 IFORM FLAG ¹ record	CONTROL
1 PRTFLG FLAG ¹ record	CONTROL
1 ICEVFG FLAG ¹ record	CONTROL
1 IDLFLG FLAG ¹ record	CONTROL
1 NHMFLG FLAG ¹ record	CONTROL
(16 TAMPERING records, required if TAMFLG = 2) ²	ONE-TIME DATA
(1 VMT MIX record, required if VMFLAG = 3)	ONE-TIME DATA
(16 MILEAGE ACCRUAL records, required if MYMRFG = 2 or 4)	ONE-TIME DATA
(16 REGISTRATION DISTRIBUTION records, required if MYMRFG = 3 or 4)	ONE-TIME DATA
(2-100 EMISSION FACTOR MODIFICATION records, required if NEWFLG = 2)	ONE-TIME DATA
(1 I/M CHARACTERISTICS record, required if IMFLAG = 2)	ONE-TIME DATA
(1 ATP CHARACTERISTICS record, required if ATPFLG = 2)	ONE-TIME DATA
(1 TRIPS/DAY record, required if ICEVFG = 3 or 4)	ONE-TIME DATA
(1 MILES/DAY record, required if ICEVFG = 3 or 4)	ONE-TIME DATA
1 SCENARIO record	PARAMETER ³
(1 VMT MIX record, required if VMFLAG = 2)	PARAMETER
(1 LD ADDITIONAL CORR. FACTOR record, required if ALHFLG = 2 or 3)	PARAMETER

-
- ¹ These 13 flags are inputted on a single record if IPROMT = 3 or 4.
- ² Only 8 records if IMFLAG=1 and TAMFLG = 2. There are 2 records (zero-mile level and percent of increase per 10K miles) for each of four vehicle types.
- ³ The sequence of records in the PARAMETER Section is repeated in order for as many scenarios as the user requires.

Table 8
Flags Controlling Input And Execution

Record Number	Variable Name	Description	Format	Value	ACTION
1	IPROMT	Flag for prompting of input.	I1,3A1	1XYZ	- No prompting; vertical format.
	IOUNEW	Values for output units as follows: 1) X = Formatted reports unit. 2) Y = Diagnostic messages unit. 3) Z = Prompting messages unit. (Default value for these three output units is 6.)		2XYZ 3XYZ 4XYZ	- Program prompts for input; vertical format. - No prompting; horizontal format. - Program prompts for input; horizontal format.
2	PROJID	80 characters for title used as output header.	20A4	-----	
3	TAMFLG	Flag for optional input of tampering rates.	I1	1 - Use MOBILE3 tampering rates. 2 - User inputted tampering rates. ¹	
4	SPDFLG	Selects speeds for each vehicle type.	I1	1 - Input one speed for all vehicle types. ² 2 - Input eight speeds; one for each vehicle type. ²	
5	VMFLAG	Selects optional use of user supplied VMT mix among vehicle types.	I1	1 - Use MOBILE3 VMT mix. 2 - User supplies VMT mix for each scenario. ² 3 - User supplies one VMT mix for all scenarios. ¹	
6	MYMRFG	Flag for optional input of registration and/or mileage accrual distributions.	I1	1 - Use MOBILE3 registration and mileage accumulation-accrual distributions. 2 - User supplies mileage accumulation distributions. ¹ 3 - User supplies registration distributions. ¹ 4 - User supplies both distributions for all vehicle types. ¹	

Table 8 (Cont'd.)

7	NEWFLG	Flag for optional modification of basic exhaust emission rates by model year.	I1	1 - Use MOBILE3 exhaust emission rates. 2 - User modifies the basic exhaust emission rates. ¹
8	IMFLAG	Flag to include impact of I/M program in calculations.	I1	1 - No I/M program. 2 - Program estimates the impact of I/M. ¹
9	ALHFLG	Flags optional use of four special correction factors: a) air conditioning; b) vehicle load; c) trailer towing; d) humidity(NOx only).	I1	1 - No input values required. 2 - Six input values required. ² 3 - Ten input values required. ²
10	ATPFLG	Flag which includes impact of anti-tampering program in emission rates.	I1	1 - No ATP. 2 - Program estimates the impact of ATP. ²

¹ Input data must be placed in the ONE-TIME DATA Section.

² Input data must be placed in the PARAMETER Section.

Table 9
Flags Controlling Output

<u>Record No</u>	<u>Variable Name</u>	<u>Description</u>	<u>Format</u>	<u>Value</u> ----- <u>ACTION</u>
11	IFORM	Selects the structure of formatted output report.	I1	1 - MOBILE1 - type numeric format. 2 - MOBILE2 - type numeric format. 3 - MOBILE3 112 column descriptive format. 4 - MOBILE3 80 column descriptive format.
12	PRTFLG	Selects which pollutants are included in output.	I1	1 - HC only. 2 - CO only. 3 - NOx only. 4 - HC, CO, and NOx.
13	ICEVFG	Controls user input of trips/days and miles/day and additional listing of crankcase and evaporative HC emissions.	I1	1 - No user input; no crankcase and evaporative HC output. 2 - No user input; with crankcase and evaporative HC output. 3 - User inputs ¹ ; no crankcase and evaporative HC output. 4 - User inputs ¹ ; with crankcase and evaporative HC output.
14	IDLFLG	Controls output of idle emission factors.	I1	1 - No idle output. 2 - Output idle emission factors.
15	NMHFLG	Selects total or non-methane HC calculations and output.	I1	1 - Total HC. 2 - Non-methane HC.

¹ Data requirements must be placed in the ONE-TIME DATA Section.

Table 10
Description of Fields on the Scenario Record

<u>Field</u>	<u>Var. Name</u>	<u>Description</u>	<u>Format</u>	<u>Allowed Values</u> ³
1	IREJN	Specifies region for which emission factors are to be computed.	I1	1 = Low Altitude 2 = High Altitude
2	CY	Last 2 digits of calendar year for which emission factors are to be calculated.	I2	60 <= CY <= 99 or 00 <= CY <= 20
3	SPD or SPD(8)	The single average route speed for which emissions are being calculated. ¹ The separate average speeds for each of the eight vehicle types ² .	F4.1 8(F4.1, 1X)	5. <= SPD <= 55. mph 5. <= SPD <= 55. mph
4	AMBT	Ambient temperature, in degrees Fahrenheit.	F4.1	0°. <= TAMB <= 110.°
5	PCCN	Percent of VMT accumulated in cold-start mode by non-catalyst equipped vehicle types.	F4.1	0. <= PCCN <= 100.
6	PCHC	Percent of VMT accumulated in hot-start mode by catalyst equipped vehicle types.	F4.1	0. <= PCHC <= 100.
7	PCCC	Percent of VMT accumulated in cold-start mode by catalyst equipped vehicle types.	F4.1	0. <= PCCC <= 100.

- 1 The one average speed input is required if SPDFLG = 1.
 2 The eight average speed inputs are required if SPDFLG = 2.
 3 Standard values for fields 3-7 are as follows:

<u>SPD</u>	<u>AMBT</u>	<u>PCCN</u>	<u>PCHC</u>	<u>PCCC</u>
19.6 mph	75.0°	20.6%	27.3%	20.6%

Chapter 3 MOBILE3 OUTPUTS

3.0 INTRODUCTION

MOBILE3 has three types of output: formatted reports, diagnostic messages and prompting messages. Four types of formatted reports can be selected in MOBILE3. These reports include the information necessary to identify the scenario being studied and the calculated emission factors by vehicle type. The type of formatted report that is output by MOBILE3 is controlled by the IFORM flag in the CONTROL Section.

The diagnostic messages are used in MOBILE3 to caution the user concerning user-supplied data. Three types of diagnostics exist: errors, warnings, and comments. An error will in all cases terminate the scenario and in some cases the run. Warnings and comments are included to assist users in the interpretation of the results of MOBILE3.

Prompting messages are available from MOBILE3 if the user selects IPROMT=2 or 4. These messages prompt the user to insert the MOBILE3 input data in the proper sequence. In the CONTROL Section, there are two prompting formats: vertical flag input(2) and horizontal flag input(4). Otherwise the prompting messages are identical for both 2 and 4.

3.1 FORMATTED REPORT OUTPUT

The only change to the formatted report output options is that the MOBILE1 descriptive output format option has been eliminated. All other output options are still available. When running MOBILE3 the user will notice that information echoed back to the user is in a slightly different format than it was in MOBILE2. Also, new information that was not being echoed in MOBILE2 is being echoed in MOBILE3. These items are illustrated in the MOBILE3 examples.

3.2 DIAGNOSTIC MESSAGES

This section describes the MOBILE3 diagnostic messages. Running MOBILE3 can result in three types of diagnostic messages: (1) error messages, (2) warning messages, or (3) comments.

Error messages indicate either invalid input data were entered into MOBILE3, or MOBILE3 attempted to perform invalid operations. All error messages are prefixed by "*** Error:". If a number follows "*** Error:", it is the value read by MOBILE3 for the variable in error (the variable name is also printed). If the error message is due to an input value that is out of bounds, the range of acceptable values is also printed. An error will stop a MOBILE3 run. Warning messages indicate that MOBILE3 input data caused an operation not necessarily intended by the user. However, the situation is not serious enough to be labeled an error.

Nonetheless, users should examine the warning messages to ascertain the conditions that were modeled. Comments are a type of warning message that are printed for the user's information. Neither a warning nor a comment will stop a MOBILE3 run.

The following is a list of the individual error, warning, and comment messages. Since most messages refer to user-input values, the messages are grouped by input record type, except for 3.2.11 and 3.2.12. The "Mdd" prefix is for dd = 01 to 83, the code value passed to QUITER to determine the message to be printed. Messages 84-88 are not issued by QUITER.

3.2.1 Read Errors

There are new read errors for MOBILE3 if alternate I/M credits are to be read in and are not provided to the program by the user.

M84 "End-of-file return on read of unit IOUIMD (new I/M credits). Run aborted."

There is also a read error if alternate effectiveness rates are not supplied to calculate the emission rates for an anti-tampering program. The message is:

M85 "End-of-file return on rest of unit IOUAER (ATP effectiveness rates). Run aborted."

If a nonempty file is assigned but the data cannot be read using the MOBILE3 format, then a message is printed, identical to the above except that it begins with 'Error return' instead of 'End-of-file' (messages M86 and M87).

3.2.2 FLAG (CONTROL Section) Record Diagnostics

M02 "*** Error: 'value of IPROMT' out of bounds for flag IPROMT. Prompt/mode type (1 to 4) must be corrected before your next run."

This message appears if IPROMT does not equal 1, 2, 3, or 4. This correction must be made before the program will proceed.

M03-M15 *** Error: 'value of flag' out of bounds for flag 'name of flag'"

This error message precedes message M53 and program termination. It will appear for each of the 13 input/output control flags which is in error. The number appearing after "*** Error:" is the value of the flag read by the program. The allowable flag values are listed in the Section 2.1, Table 8. Each of these messages indicates the value falls outside of the valid bounds for that flag.

M53 "You must correct all flags before you run again."

This message appears if there is an error in reading the CONTROL flags. It should appear after a list indicating which flags are in error (see M03-M15). The flags in error must be corrected before the program will continue.

M71 "Comment: Current output unit numbers are
 IOUREP = 'formatted report unit'
 IOUERR = 'error/warning/comment unit'
 IOUASK = 'prompt message unit'"

This message appears whenever any of the default output unit numbers are changed.

3.2.3 Tampering Rates Diagnostics

M50 "****Error: 'value of ZEROML' out out bounds for tampering rate intercept (up to 1.0)"

The zero-mileage level of tampering cannot exceed 100% (1.0 as a fraction) of the fleet, for each tampering type and vehicle type. See Section 2.2.1 Local Tampering Parameters.

3.2.4 VMT Mix Record Diagnostics

M17 "**** Error: 'value of VMTMIX(I)' out of bounds for VMTMIX (0. to 1.)"

This message is printed if a value of VMTMIX(IV) (vehicle-miles-traveled fraction for vehicle type IV) is not between 0. and 1. See Section 2.2.

M18 "**** Error: 'Value of VMTMIX sum' sum of VMTMIX is not equal to 1."

This message is printed if the sum of VMTMIX(IV) over all vehicle types is not equal to 1. Since each VMTMIX(IV) represents the fraction of total miles that vehicle type I contributes to the total vehicle-miles-traveled by the fleet, the sum of these fractions should equal 1. See Section 2.2.

M48 "**** Error: there are no sales for vehicle 'vehicle name' "

It is assumed that no significant number of LDDV's exist before 1975. Similarly, no LDDT's are assumed prior to 1978. This message is printed if the user inputs a positive VMT fraction for LDDV's or LDDT's for calendar years in which they are assumed to be virtually nonexistent.

M68 "**** Error: EFFT ≤ 0 . AND VMTMIX > 0 . for vehicle 'vehicle name'"

No exhaust emissions exist for the named vehicle type; but vehicles of that type have accumulated a nonzero fraction of the total vehicle fleet mileage.

M70 "Error: EFIDLE ≤ 0 . AND VMTMIX > 0 . for vehicle 'vehicle name'"

No idle emissions exist for the named vehicle type; but vehicles of that type have accumulated a nonzero fraction of the total vehicle fleet mileage.

3.2.5 Mileage Accrual and Registration Distribution Diagnostics

M19 "Error: 'value of AMAR(JDX,IV)' negative model year mileage"

This message is printed if the user supplied mileage accrual data for model year JDX and vehicle type IV is negative. See Section 2.2.

M20 "Error: 'value of JULMYR(JDX,IV)' negative model year registration"

This message is printed if the model year registration fraction is negative. Since this number represents the fraction of all vehicles in the fleet of a given age, it should be between 0 and 1 inclusive. See Section 2.2.

M65 "Error: MYR of LDDV not equal to LDGV for JDX = 'value of JDX'"

For description see M66.

M66 "Error: MYR of LDDT not equal to LDGT1 for JDX = 'value of JDX'"

Messages M65 and M66 will appear if the user entered a different registration distribution for LDGV's than for LDDV's or for LDGT1's than for LDDT's. The registration mix for the total LDV (or LDT) fleet is to be input twice for the gasoline powered and diesel powered vehicles (or trucks). MOBILE3 has an internal function that apportions total registrations into the separate gasoline and diesel powered groups. Thus, it is assumed in MOBILE3 that LDDV's will replace some of their LDG counterparts and will be used in the same way. See Section 2.2.

M21 "Warning: 'value of JULMYR' registration with zero mileage"

See description in W4.

M22 "Warning: 'value of AMAR' mileage with zero registration"

One of the two preceding messages is printed if, for a given vehicle age, vehicles either do not accumulate mileage, yet make up a fraction of the fleet, or do not make up a fraction of the fleet but accumulate mileage. If a mileage accrual rate or a registration fraction is zero, both should be zero. See Section 2.2.

M49 "Warning: 'value of CHKMYR' MYR sum not = 1. (will normalize)"

This message is printed if the sum of model year registration fractions for a given vehicle type do not sum to 1. If the model year age registration fractions do not sum to 1, MOBILE3 will normalize the fractions so that they will. See Section 2.2.

3.2.6 Emission Factor Modification Diagnostics

M23 "*** Error: 'value of NEWCT' out of bounds for e.f. changes (1 to 100 pairs)"

This message is printed if the number of emission rate modifications is not between 1 and 100. MOBILE3 is limited to handle a maximum of 99 modifications. See Section 2.2.2.

M62 "*** Error: 'value of NEWREG' out of bounds for new e.f. region (1,2,3 only)"

The region entered for a new (replacement) emission equation can be specified as 1, 2 or 3 only. It is independent of the region entered in the SCENARIO record. See Section 2.2.2.

M25 "*** Error: 'vehicle type code' out of bounds for vehicle type (1 to 8)"

This message is printed if the vehicle type in the emission rate modification section is not equal to 1, 2, 3, 4, 5, 6, 7, or 8. MOBILE3 has eight vehicle types. These types and their corresponding codes are: (1) light duty gasoline powered vehicles, (2) light duty gasoline powered trucks I (0 - 6,000 lbs. GVW), (3) light duty gasoline powered trucks II (6,001 - 8,500 lbs. GVW), (4) heavy duty gasoline powered vehicles (8500+ lbs.), (5) light duty diesel powered vehicles, (6) light duty diesel powered trucks (0-8500 lbs.), (7) heavy duty diesel powered trucks (8500+ lbs.), and (8) motorcycles. See Section 2.2.2.

M26 "*** Error: 'pollutant code' out of bounds for pollutant (1 to 3)"

This message is printed if the code for pollutant on the emission rate modification input section is not equal to 1, 2, or 3. MOBILE3 considers only 1 for hydrocarbons, 2 for carbon monoxide, and 3 for oxides of nitrogen. See Section 2.2.3.

M27 "*** Error: 'value of MYFRST or MYLAST' out of bounds for year (1941 to 2020)"

This message is printed if the code, corresponding to the first or last model year to have altered emission rates is not between 41 and 99 or 00 and 20 (corresponding to years 1941-2020). See Section 2.2.2.

M29 "*** Error: Last year cannot be less than first year"

This message is printed if the first model year to have its emission rates altered is less than the last model year to be altered. See Section 2.2.2.

M30 "*** Error: 'value of ZMLNEW' intercept must be positive"

This message is printed if a new zero-mile emission level is negative or zero. See Section 2.2.2.

M51 "*** Error: equation 'number of equation' causes more than 15 allowed for any 1 reg/mode/pol"

When emission rate modifications are made, no more than 15 modified emission equations may be input for any region, vehicle type, and pollutant combination. See Section 2.2.2.

M67 "*** Error: EFFTP > 0. and GSF=0. for vehicle 'vehicle name'"

This error message will be printed if the named vehicle type has a positive FTP emission factor and a zero fleet sales fraction.

M69 "*** Error: IDLRTM > 0. and GSF=0. for vehicle 'vehicle name'"

The named vehicle type has a positive idle emission factor and a zero fleet sales fraction.

M31 "Warning: 'value of DRNEW' negative slope for ageing vehicle"

This message is printed if the value for the exhaust deterioration rate is negative. A negative deterioration rate implies improving emissions with increasing mileage accumulation. See Section 2.2.2.

M59 "Warning: equation 'equation number' zeroes all idle coefficients (and total) for IR = 'region', IV = 'vehicle', IP = 'pollutant'"

All alternative emission equations cause the program to zero all idle emission equations corresponding to the region, vehicle type, and pollutant modified.

3.2.7 Inspection/Maintenance Data Diagnostics

M32 "*** Error: 'value of ICYIM' out of bounds for year (1960 to 2020)"

This message is printed if the code indicating the year in which an I/M program is to begin does not fall between 60 and 99, or 00 and 20 (years 1960 to 2020). See Section 2.2.3, I/M program description, field 1.

M33 "Error: 'value of ISTRIN' out of bounds for stringency (10 to 50)"

This message is printed if the stringency of the I/M program for 1980 and earlier LDV's is not between 10 and 50 inclusive. See Section 2.2.3, I/M program description, field 2.

M34 "Error: 'value of IMTFLG' out of bounds for mechanics training (1 to 2)"

This message is printed if the value for the mechanics training flag, IMTFLG, is not equal to 1 or 2. See Section 2.2.3, I/M program description, field 3.

M35 "Error: 'value of MODYR1' out of bounds for MODYR1 (1941 to 2020)"

This message is printed if the code representing the first model year under an I/M program is not between 41 and 99, or 00 and 20 (years 1941 and 2020). These years are the limits set by MOBILE3. See Section 2.2.3, I/M program description, field 4.

M36 "Error: 'value of MODYR2' out of bounds for MODYR2 (1941 to 2020)"

This message is printed if the code representing the last model year under an I/M program is not between 41 and 99, or 00 and 20 (years 1941 to 2020). See Section 2.2.3, I/M program description, field 5.

M37 "Error: MODYR1 cannot be greater than MODYR2"

This message is printed if the first model year in an I/M program is greater than the last model year in an I/M program. See Section 2.2.3, I/M program description, fields 4 and 5.

M72 "Error: 'Value of ILDT' out of bounds for vehicle type (1 to 4)"

Value for the vehicle types to which I/M is applied is not between 1 and 4. See Section 2.2.3, I/M program description, field 6.

M73 "Error: 'value of ITEST' out of bounds for short test type flag (1 to 3)"

Value of the I/M Technology IV+ short test type flag is not 1, 2 or 3. See Section 2.2.3, I/M program record description, field 7.

M82 "**** Error: 'value of ICUTS' out of bounds for 1981+ vehicles cutpoint flag (1 to 3)"

Value of the I/M Technology IV+ cutpoint flag is not 1, 2 or 3. See Section 2.2.3, I/M program record description, field 8.

M74 "**** Error: 'Value of NUDATA' out of bounds for new I/M data flag (1 to 4)"

Value of the NUDATA flag (the flag from the I/M parameter record that indicates whether or not new I/M credits will be read from unit IOUIMD) is not 1, 2, 3 or 4. See Section 2.2.3, I/M program description, field 9.

3.2.8 Anti-Tampering Data Diagnostics

M75 "**** Error: 'value of LAPS Y' out of bounds for anti-tampering program start year"

Value of the start year for the selected anti-tampering program (ATP) is not in the range 1960-2020. See Section 2.2.4, ATP record description, field 1.

M76 "**** Error: 'value of LAP1ST' out of bounds for anti-tampering program 1st model year"

Value of the first model year included in the selected ATP is not in the range 1941-2020. See Section 2.2.4, ATP record description, field 2.

M77 "**** Error: 'value of LAP1ST' out of bounds for anti-tampering program last model year"

Value of the last model year included in the selected ATP is not in the range 1941-2020. See Section 2.2.4, ATP record description, field 3.

M78 "**** Error: 'value of LVTFLG (IVTAM)' out of bounds for anti-tampering vehicle type (1 to 2)"

Value entered for the ATP vehicle class inclusion flag for vehicle type IVTAMP is not either 1 (not covered) or 2 (covered). See Section 2.2.4 ATP record description, field 4.

M79 "**** Error: 'value of EVP' out of bounds for evap ATP effectiveness rate (0. to 1.)"

Value entered as an evaporative ATP effectiveness rate is not in the range 0.0 to 1.0. These rates act as percentage credits, and hence must be nonnegative and not exceed unity. See Section 2.2.4 ATP Data, Effectiveness Credit Data subsection.

M80 "**** Error: 'value of RATE' out of bounds for exh ATP effectiveness rate (0. to 1.)"

Value entered as an exhaust ATP effectiveness rate is not in the range 0.0 to 1.0. These rates act as percentage credits, and hence must be nonnegative and not exceed unity. See Section 2.2.4 ATP Data, Effectiveness Credit Data subsection.

M81 "**** Error: 'value of COLSUM' out of bounds for AER matrix file column (0. to 1.)"

Each column of each of the 4 exhaust ATP effectiveness rate matrices in the data file attached to device 3 must sum to a nonnegative value not exceeding unity. See Section 2.2.4 ATP Data, Effectiveness Credit Data subsection.

3.2.9 Trips/Day and Miles/Day Record Diagnostics

M54 "**** Error: 'value of USRTPD' average trips/day cannot be negative"

This message is printed if the user supplied trips per day is negative. See Section 2.2.

M55 "**** Error: 'value of USRMPD' average miles/day cannot be negative"

This message is printed if the user supplied miles per day is not positive. See Section 2.2.

3.2.10 Scenario Record Diagnostics

Individually, errors described below will not cause the program to stop but will void analysis of the scenario associated with the error and all subsequent scenarios. If one of these messages appears, the error must be corrected for that scenario. If more than 50 of these errors occur the program run will stop.

M24 "**** Error: 'region code' out of bounds for region (1, 2, 3 only)"

This message is printed if the region chosen in the scenario record is not equal to 1, 2, or 3. See Section 2.3.1. Note: Do not use region 3. It is intended to be used for evaluated altitude, but MOBILE3 software does not currently support this option. See messages M58 and M83 below.

M38 "**** Error 'value of CY' out of bounds for year (1960 to 2020)"

This message is printed if the calendar year to be evaluated is not between 1960 and 2020, inclusive. This is a limitation of MOBILE3.

M39 "**** Error: 'value of SPD(I)' speed must be positive"

This message is printed if the value for average speed is not positive.

M40 "**** Error: 'value of TAMB' valid temperature is 0-110 deg (F)"

This message is printed if the temperature value does not fall between 0 and 110°F. These limits correspond to the limits of the temperature correction factor.

M41 "**** Error: 'value of PCCN' out of bounds for PCCN (0. to 100.)"

This message is printed if the input value for percentage of miles traveled in the cold-start mode for noncatalyst vehicles is not in the 0-100% range.

M42 "**** Error: 'value of PCHC' out of bounds for PCHC (0. to 100.)"

This message is printed if the input value for percentage of miles traveled in the hot-start mode for catalyst vehicles is not in the 0-100% range.

M43 "**** Error: 'value of PCCC' out of bounds for PCCC (0. to 100.)"

This message is printed if the input value for percentage of miles traveled in the cold-start mode for catalyst vehicles is not in the 0-100% range.

M63 "**** Error: 'value of sum PCHC + PCCC' out of bounds (0. < = PCHC + PCCC <= 100.)"

The sum of the cold/hot-start VMT percentages for vehicles with catalytic converters must lie in the range of 0 to 100 percent.

M64 "**** Error: 'value of sum PCHC + PCCC - PCCN' out of bounds (0.< =PCHC + PCCC - PCCN <= 100.)"

The sum of the cold/hot-start VMT percentages for vehicles with catalytic converters less that of the non-catalytic converter equipped vehicles must lie in the range of 0 to 100 percent.

M58 "**** Error: 'value of ALT' out of bounds for altitude (-200 to 10,000 ft.)"

The altitude entered must lie between 200 feet below and 10,000 feet above mean sea level. See Section 2.3.2. Note: This message would only occur if the user inputs region 3. Region 3 for intermediate altitude is currently not supported by MOBILE3.

M83 "Error: 'value of ALT' out of bounds for altitude (region = 3 => t < 1500).

MOBILE3 has the input and control code to setup an evaluated altitude run, given the user has selected region = 3 and altitude between -200 and 10,000 feet. But the interpolation (between low and high altitude results) algorithm has not been selected. In the interim, an entered altitude less than 1500 feet will be processed as a low altitude run. An entered altitude equal to or greater than 1500 feet will lead to M83 and the scenario will be aborted.

M16 "Warning: 'value of SPD' speed reduced to 55 m.p.h. maximum"

This message appears if the value for speed is greater than 55. MOBILE3 limits the speed to 55 mph. Speed correction factor equation coefficients are only valid in the range of 5 mph through 55 mph.

M52 "Warning: 'value of SPD' speed increased to 5 m.p.h. minimum"

This message is printed if the average speed is less than 5 mph. An average speed of less than 5 mph is assumed to be unlikely, and the value is reset to 5 mph. Speed correction factor equation coefficients are only valid for speeds of 5 mph through 55 mph.

3.2.11 Additional Light Duty Correction Factor Record Diagnostics

M44 "Error: 'value of AC' out of bounds for AC (0. to 1.)"

The air conditioning input value that indicates whether the A/C correction factor is used must range from zero to one.

M45 "Error: 'value of XLOAD(I)' out of bounds for extra load (0. to 1.)"

Extra load usage fraction for each vehicle type must range from zero to one.

M46 "Error: 'value of TRAILR(I)' out of bounds for trailers (0. to 1.)"

Trailer towing usage fraction for each vehicle type must range from zero to one.

M47 "Error: 'value of ABSHUM' out of bounds for humidity (20. to 140.)"

Absolute humidity (grains/pounds) must range from 20 to 140.

M57 "*** Error: WB temp cannot be greater than DB temp"

Wet bulb temperature must be less than or equal to the dry bulb temperature.

M56 "Comment: A/C correction factor will be calculated.
Value of inputted AC usage parameter is ignored."

This message appears if a value for air conditioning usage other than zero is entered. The air conditioning usage is a function of the temperature. Therefore, the A/C usage calculated in MOBILE3 may vary from the value read.

3.2.12 Miscellaneous Data-Related Diagnostics

M88 "Excess data errors prevent further analysis"

This message should be the last of a list of 50 or more messages. The other messages should be analyzed to determine the problems causing the errors and corrected.

3.2.13 Internal Software Error Diagnostics

M01 "*** Error: Message code 'message code value' Unknown"

This message should only be printed when the message printing subroutine QUITER is passed an undefined message code value.

M60 "*** Error: 'default value of named function' default used for 'year' in function 'function name'"

This message indicates a default exit from a data point lookup function has been taken. One or more of the internally associated year/data pairs for 'function name' is in error. The program must be corrected and recompiled before another run.

M61 "*** Error: default used for 'year' in index function 'index function name'"

This message indicates a default exit has been taken from an index function. One or more of the associated year/years's position pairs is in error. The program must be corrected and recompiled before another run.

3.3 PROMPTING MESSAGES

If IPROMT=2 or IPROMT=4, the user is prompted for input data in the order required by MOBILE2. Prompting messages are written to unit 6 by default, unless the user redefines the prompting message unit (see Section 2.1.1). MOBILE3 does not prompt for the first record (IPROMT and IOUNEW assignment record), since IPROMT determines whether or not prompting will occur.

The prompt for each record type is described below. Refer to Chapter 2 for a detailed discussion of the prompted values.

3.3.1 CONTROL Section Prompts

3.3.1.1 Title Record Prompt

The title record for the MOBILE3 run is prompted for by:

"Enter project id:"

3.3.1.2 13 Remaining Flag Prompts

If IPROMT=2 (vertical format), the 13 remaining CONTROL SECTION flags are prompted for individually, with the prompts:

"Enter TAMFLG:"
 "Enter SPDFLG:"
 "Enter VMFLAG:"
 "Enter MYMRFG:"
 "Enter NEWFLG:"
 "Enter IMFLAG:"
 "Enter ALHFLG:"
 "Enter ATPFLG:"
 "Enter IFORM:"
 "Enter PRTFLG:"
 "Enter ICEVFG:"
 "Enter IDLFLG:"
 "Enter NMHFLG:"

If IPROMT=4 (horizontal format), the 13 remaining CONTROL SECTION flags are prompted for on one record with the single prompt:

"Enter TAMFLG, SPDFLG, VMFLAG, MYMRFG, NEWFLG, IMFLAG, ALHFLG, ATPFLG, IFORM, PRTFLG, ICEVFG, IDLFLG & NMHFLG"

3.3.2 ONE-TIME DATA Prompts

Prompts for ONE-TIME DATA have been updated where necessary to match MOBILE3 input requirements. The prompts for the new tampering rates records, the revised I/M program record and the new ATP record are shown here.

3.3.2.1 Tampering Rate Prompts

If TAMFLG=2, the replacement ZMLTAM and DRTAM are asked for by 1 of 2 pairs of prompts. IF IMFLAG=1, then:

"Enter tampering intercepts (zero-mile levels) for non-I/M case only:"
 "Enter tampering slopes (deterioration rates) for non-I/M case only:"

If TAMFLG=2, then:

"Enter tampering intercepts (zero-mile levels) for non-I/M and I/M cases:"

"Enter tampering slopes (deterioration rates) for non-I/M and I/M cases:"

3.3.2.2 I/M Parameter Record Prompt

If IMFLAG=2, nine I/M parameters are prompted for by:

"Enter year I/M begins, stringency, m.t. flag,
first model year and last model year of prog. benefits,
vehicle, test type, cutpoints and newdata flags"

MOBILE3 does not prompt for the I/M credit data from unit 4.

3.3.2.3 Anti-Tampering Record Prompt

If ATPFLG=2, six anti-tampering parameters are required:

"Enter ATP start year, first & last years included,
and vehicle types covered (format = 3I2, 4I1):"

MOBILE3 does not prompt for the ATP effectiveness data from unit 3.

Chapter 4 MOBILE3 IMPLEMENTATION

4.0 INTRODUCTION

This chapter contains information on the MOBILE3 tape and other information that may be useful to users interested in the computer resource requirements of MOBILE3, to users implementing MOBILE3 on their own computer systems, and to users who are considering making some software changes.

4.1 MOBILE3 TAPE

The MOBILE3 tape issued by EPA contains four files. The first file is the MOBILE3 source code in mixed-case lettering (upper and lower) exactly the same output as illustrated in the MOBILE3 examples (Chapter 5). The second file is exactly the same as the first file except it is an uppercase lettered version with underscores replaced by hyphens. This second file has been provided in the event some systems have difficulty with lowercase characters or with underscores. The mixed-case version is more readable than the all-uppercase version.

The third file contains the anti-tampering program credit matrices which, with the assistance of EPA, can be used to simulate the effect on emissions of various kinds of anti-tampering programs. These credit matrices are duplicated in Appendix D, and an index to the credit matrices is found at the beginning of Appendix D.

The last file on the tape is a copy of the User's Guide examples in uppercase. These examples can be used to verify that MOBILE3 is operating properly when installed on a new system.

Other characteristics of the MOBILE3 tape are presented in Table 11.

Table 11
MOBILE3 Tape Characteristics

Density:	1600 bpi	Character Set:	EBCDIC
Blocking:	4000	Total Length:	168.33 feet
Record Length:	80	Unlabeled	

<u>File Number</u>	<u>Description</u>	<u>Number of Records</u>	<u>Block Count</u>	<u>Tape Length (Feet)</u>
1	MOBILE3 Source Code, Mixed-Case	13,039	261	68.81
2	MOBILE3 Source Code, Uppercase	13,039	261	68.81
3	ATP Credit Matrices	5,450	109	28.94
4	User's Guide Examples	380	6	1.78

4.2 PROGRAM STORAGE REQUIREMENTS

The variety of computers and system configurations in use prohibits a precise statement of main storage requirements on each system. Nevertheless, the following should reflect the requirements of MOBILE3 on most systems.

	<u>Kilobytes</u>	<u>32-bit memory words</u>
Source Code	588	150,528
Object Code	300	76,800

The standard convention of 1 kilobyte = 1024 bytes is used. The values were obtained from the implementation of MOBILE3 on the University of Michigan Terminal System, based on an Amdahl 5860.

4.3 PROGRAM EXECUTION TIME

MOBILE3 requires more time to process scenario records than does MOBILE2. This was expected due primarily to the addition of the tampering offset code. Table 12 provides a comparison of the execution time required by MOBILE3 and MOBILE2 to process input data containing varying numbers of scenarios.

Table 12
Comparison of MOBILE3 and
MOBILE2 Execution Times

<u>Number of Scenarios</u>	<u>Average Execution Time (CPU Seconds)</u>			<u>Average Time per Scenario (CPU Seconds)</u>	
	<u>MOBILE3</u>	<u>MOBILE2</u>	<u>M3/M2</u>	<u>MOBILE3</u>	<u>MOBILE2</u>
1	0.232	0.168	1.38	0.226	0.172
2	0.323	0.185	1.74	0.161	0.092
10	1.092	0.580	1.88	0.109	0.058
20	2.045	1.071	1.91	0.102	0.054
50	4.942	2.591	1.91	0.099	0.052
250	24.330	12.529	1.94	0.097	0.050

The MOBILE3 flag settings for these benchmark runs are identical to those of Example 5.1.1 (all defaults) of Chapter 5. The equivalent settings were made for the MOBILE2 runs. The same first scenario of 5.1.1 was executed for the indicated number of times. These estimates were results from runs executed on an Amdahl 5860 computer. The average time per scenario statistic equals total execution time (not total scenario time) divided by the number of scenarios.

4.4 DEVIATIONS FROM FORTRAN STANDARD ANSI X3.9-1966

Users who wish to run MOBILE3 on other computers may need to change the program because of FORTRAN compiler incompatibilities. This section lists known deviations of MOBILE3 from the FORTRAN language standard ANSI X3.9-1966 published by the American National Standards Institute. Most conversion problems will be included in this list.

4.4.1 Array Dimensions

Some MOBILE3 arrays are defined to have four or five dimensions; the ANSI standard permits a maximum of three.

4.4.2 Character Data

Hollerith data is defined in MOBILE3 format statements by means of single quotation marks, while the ANSI standard requires use of the nH format specification.

MOBILE3 stores four characters in integer and real variables and array elements (A4 format) and eight characters in real*8 arrays. The ANSI standard only guarantees that one character can be stored in an integer or real variable (A1 format); therefore, MOBILE3 may be incompatible with some computer systems in this respect.

MOBILE3 assigns initial values of character data in integer data statements by means of single quotation marks. Again, the ANSI standard requires use of the nH format specification.

4.4.3 Array Data Initialization

MOBILE3 uses implied do-loops to initialize arrays in data statements. The ANSI standard requires that programs specify and initialize individual array elements. Each array element must be identified by means of an explicit subscript.

4.4.4 Nonstandard Characters

MOBILE3 uses some characters undefined in the ANSI standard. These include the single quotation mark('), double quotation mark(""), pound sign (#), semicolon (;), and colon(:).

4.4.5 Input Error and End-of-File

MOBILE3 uses the ERR= option in READ statements to process input conversion errors and the END= option to process an end-of-file. Neither option is supported by the ANSI standard.

4.4.6 Comment Lines

MOBILE3 has comment lines interspersed with the continuation lines of data initialization statements. The ANSI standard states that comment lines may not be followed by continuation lines.

4.4.7 Multiple Subroutine Returns

MOBILE3 uses the alternate RETURN i feature in 8 subroutines. The ANSI standard does not support multiple returns from a subroutine.

4.5 TYPICAL JOB STRUCTURE

Since job control language (JCL) is highly system dependent this manual does not provide examples. The general requirements for running a job are outlined here. Most users should have little difficulty implementing JCL to perform similar functions.

The simplest job structure for most systems is illustrated below:

```
JCL to sign on the computer system
JCL to compile MOBILE3 FORTRAN source code
```

```
·
·
·
```

```
MOBILE3 FORTRAN source code
```

```
·
·
·
```

```
JCL to assign MOBILE3 I/O, catalog (link edit), and run MOBILE3
```

```
·
·
·
```

```
MOBILE3 input data
```

```
·
·
·
```

MOBILE3 uses I/O device numbers stored in common IOUCOM. MOBILE3 I/O device assignments are:

- 3 = user supplied anti-tampering program (ATP) effectiveness rates (IOUAER)
- 4 = user supplied inspection/maintenance (I/M) credits (IOUIMD)
- 5 = general input data (IOUGEN)
- 6 = formatted reports (IOUREP)
- 6 = diagnostic messages (IOUERR)
- 6 = input prompting messages (IOUASK)

Users can change these device numbers by modifying source code data statements initializing common IOUCOM in Block Data Subprogram 14. Output devices only can also be changed by assigning replacement numbers to IOUNEW on line 1 of the CONTROL Section as shown in Table 7 in Chapter 2.

The job structure illustrated above does not read user-supplied I/M credits or ATP credit matrices. Users can read I/M credits or ATP credit matrices by entering the data from another I/O device such as a disk file or magnetic tape. Alternately, users can merge the credits or rates with other input and change the I/M or ATP input device number from 3 or 4, respectively, to 5. Another useful change (especially for IFORM = 1 or 2) might alter IOUREP from 6 to some other unused unit number via IOUNEW. Again, see Table 7 in Chapter 2.

4.6 POSSIBLE PROGRAM CHANGES

This section describes some of the more common changes that users might make to their copy of the MOBILE3 program.

The changes mentioned here are suggestions for: (a) user convenience (multiple CONTROL Sections, hardcoding locality-specific data), (b) program enhancements (single record numeric output, evaluation of intermediate altitude emission factors), and (c) reducing computer resource requirements.

4.6.1 Multiple CONTROL Sections

The control flags and ONE-TIME DATA are input exactly once into MOBILE3. Since these values once read in cannot be altered, users must make multiple runs of MOBILE3 if they want to change values of control flags or ONE-TIME DATA. Multiple runs incur the additional overhead of loading the program each time and can be inconvenient to the user. Because of this, the user may want to change MOBILE3 to be capable of "starting over" with a new input stream upon some input cue. One method of doing this is described below. This approach has not been completely verified.

New CONTROL Sections would be entered after MOBILE3 has read one or more scenarios. Therefore, it is necessary to find a way of indicating that the program is to stop reading scenario records and begin reading CONTROL records. A simple way of doing this is to modify the program to look for a special value in the scenario record. For example, a literal value of "FLAG" could be used in columns 77 - 80.

Users would need to add a statement to subroutine PARSEC immediately following the statements that read scenario records. This statement would cause a subroutine exit if the special value were found.

The MAIN program would also need to be modified. Users would need to identify the "FLAG" return from PARSEC (by alternate return code or by a check after the PARSEC CALL statement) and branch back to the beginning of MAIN.

We do not know whether repeating initialization steps causes problems. Users must determine this for themselves. Users should realize that new CONTROL Section data modifies all previous CONTROL Section data. MOBILE3 does not revert to an original ("clean") version whenever new CONTROL Section data are entered (for example, user supplied mileage accrual, registration, or alternate emission rates remain and replace the MOBILE3 values).

4.6.2 Hardcoding Locality Specific Data

Users who plan to run a very large number of MOBILE3 data sets, and who wish to override the MOBILE3 default conditions with their own locality specific data in each data set, could consider modifying the BLOCK DATA routines and replacing the MOBILE3 data with their own data.

4.6.3 Single (Long) Record Numeric Output

Users may wish to print a single line of numeric output to a file or tape. This can be done by setting the report format code IFORM to 2 and changing subroutine OUTDT2. The slash '/' carriage controls must be deleted from format statements 200 and 210. The line table identifiers 'A', 'B', and 'C' are no longer needed and can be deleted from the format statements.

The column headers for OUTDT2 are printed by subroutine OUTHD2. Of course, these will no longer line up with the columns if users change OUTDT2. Users can delete the OUTHD2 call from OUTPUT if the column headers are not desired. Alternatively, with a little more effort, users can change the OUTHD2 header formats.

If this method is used to print a single line of numeric output, each line will exceed 132 characters (to about 200, depending on the specific changes).

4.6.4 Intermediate Altitude

Users who wish to model conditions at altitudes other than the standard 500 ft. low altitude or 5500 ft. high altitude conditions may alter the program to do so. The program is already set up to do much of the work. Intermediate altitude is handled as follows:

1. The user inputs '3' as the region on the scenario record. MOBILE3 allows this and expects the next record to contain the altitude in an F6.0 format.
2. The altitude must be between 1500 ft. and 10,000 feet. Less than 1500 feet is considered "low altitude", for modeling purposes.

3. Subroutine EFCALX will then calculate emission rates for both low and high altitude. The user must modify EFCALX by deleting the QUITER call at statement 30 and adding there the intermediate altitude calculation methodology. EPA has not yet evaluated what this methodology should be.
4. The output routines do not need to be modified.

4.6.5 Reducing Computer Resource Requirements

Users who wish to reduce MOBILE3's memory requirements can do so by removing arrays, or portions of arrays which are not useful for their specific analyses.

The most significant reductions are:

1. Eliminate an unnecessary region. Many of the arrays contain data for two regions (low altitude and high altitude). Users not requiring both regions could eliminate the "region" dimension of the arrays, delete corresponding portions of the BLOCK DATA routines, and make appropriate indexing changes.
2. Eliminate I/M credits. Users who do not need to include I/M effects in their analyses can eliminate BLOCK DATA's 6 and 7 (9,994 integer values), the common areas and routines PCLEFT and GETIMC.

A less drastic reduction can be made by eliminating unneeded portions of the I/M credit arrays.

3. Any other unneeded arrays, or portions thereof, could be eliminated.
4. Use halfword integer arrays. All the integer arrays in COMMON areas are fullword integers. This is because halfword integers, or INTEGER*2, are not an ANSI FORTRAN standard. We wanted MOBILE3 to be compatible with as many systems as possible. These integer arrays contain over 4,800 words of either 1-digit pointers or flags or 4-digit model years. If the user has the halfword option available, and if the user's word length is such that a halfword can store a 4-digit integer, then changing the integer arrays from fullwords to halfwords can recover over 2,400 words of memory.

Users who wish to reduce the running time of MOBILE3 can do so in the following manners:

1. To reduce the overhead associated with subroutine calls, routines which are called from only one or two places could be deleted and their logic moved in-line into the calling routine. This is particularly true of the pointer functions, which typically contain very few lines of code. Examples are:

- a. The logic of IERPTR could be moved into routines EFCALX and NEWERQ.
 - b. CCEVRT could contain the logic of HOTSOK, CRANKC, DIURNL, XMPD, and TPD.
 - c. BEF and BEFIDL could be placed in-line in EFCALX
 - d. BEF could check for the necessity of calling PCLEFT. (check IMFLAG, etc.).
 - e. IGLPTR, IGTPTTR, ICEPTR, IGUPTR could be placed in ALUH.
 - f. ISPPTR, ISPPT8, IGPPTTR could be coded in BIGCFX.
2. Any or all multidimensional arrays may be converted to single dimensional arrays in the executable code (not necessarily in the block data subprograms). For any converted array, the user must then compute the required subscript to extract the correct data value. This method gains little, if any, run time when the available FORTRAN compiler globally optimizes code.
 3. If the user typically runs MOBILE3 with the PRTFLG value less than 4 (to select only one pollutant to output), then the computational logic could be changed to evaluate only the selected pollutant. Currently all pollutants are evaluated. Approximately 15-20% of the total run time is expended to evaluate one pollutant.
 4. Computational code may be converted to assembly language mnemonics with an extended FORTRAN which permits an in-line assembly drop-in to be interspersed with the ordinary FORTRAN statements. Depending on the optimizing capabilities of the available FORTRAN compiler, this method can reduce the run time by 10% to 50%.
 5. The user could tailor the program to a specific usage, eliminating unneeded options and modifying input and output. The consideration of hard-coding locality specific data has already been mentioned.

4.7 PROGRAM UPDATE INFORMATION

The EPA expects MOBILE3 to undergo future revision to correct any possible errors, improve program performance, and incorporate changes in the methodology. Users who wish to submit changes or corrections can mail these to the EPA Motor Vehicle Emission Laboratory in Ann Arbor at the address given at the end of this section.

A list of program errors and User's Guide corrections will be compiled if necessary and distributed to EPA Regional offices. We do not currently intend to support a user mailing list for automatic distribution of these corrections. Users should contact their regional offices from time to time. Users, who wish to do so, may submit the following Update Request form. In the event a complete mailing list is assembled, they will be included and sent any published changes to MOBILE3.

MOBILE3 UPDATE REQUEST

Mail to:

MOBILE3
Office of Mobile Sources
Emission Control Technology Division
Test and Evaluation Branch
2565 Plymouth Road
Ann Arbor, Michigan 48105

Name and Address of User:

CITY STATE
ZIP

Name and telephone numbers of individual(s) we may need to reach to
respond to questions:

MOBILE3-1

Chapter 5
MOBILE3 EXAMPLES

5.0 INTRODUCTION

Six examples have been provided which illustrate various aspects of MOBILE3. The user is encouraged to try two or more of these examples to ensure that the model as compiled is running properly.

5.1 EXAMPLES

The MOBILE3 examples are summarized in Table 13.

Table 13
MOBILE3 Examples

<u>Example #</u>	<u>Title</u>	<u>Content</u>
1	Basic Run	Basic fleet emission rates evaluated in 1/1/80, 1/1/88, 1/1/90.
2	Alternate Tampering Rates	Fleet emission rates with alternate (zero) tampering rates, evaluated in 1/1/80, 1/1/88, and 1/1/90.
3	I/M	An I/M program implemented in 1/1/83 and evaluated in 1/1/80 and 1/1/88.
4	ATP	An anti-tampering program, implemented in 1/1/84 and evaluated in 1/1/80 and 1/1/88.
5	I/M + ATP	Anti-tampering and I/M programs, evaluated in 1/1/80, 1/1/88 and 1/1/95.
6	Replacement of MOBILE3 Data	Other user options are selected to illustrate difference in data echoing between MOBILE2 and MOBILE3.

5.1.1 Basic Run Example

This example is a basic MOBILE3 run which reflects "national average" emission rates without I/M or an ATP. The user should note that each scenario output section includes information on whether I/M or an ATP has been included, and other information such as temperature and operating mode percentages.

5.1.2 Alternate Tampering Rates Example

This example illustrates the input of alternate tampering rates into the ONE-TIME DATA section. TAMFLG has been set to the value of 2. The first four records in ONE-TIME DATA are the tampering frequency zero-mile levels, the second four records are the increases in tampering rates per 10K miles. These tampering rates have been echoed back by the program in the run header. Note that each scenario output section also states that alternate rates have been used.

5.1.3 I/M Program Example

This example illustrates the use of a control file which estimates the impact of an I/M program. The I/M program characteristics are summarized at the top of the run header. Note that the scenarios are now echoing the fact that I/M is being accounted for in estimating emission rates.

5.1.4 ATP Example

This fourth example shows how an anti-tampering program run is set-up on the control file. ATPFLG is now set at 2, while alternate effectiveness matrices (ATP credits) are read from unit 3. The ATP parameter record must also be specified following NMHFLG.

5.1.5 I/M and ATP Combination Example

This example illustrates the use of a control file which activates both I/M and an ATP. Note that both the I/M and ATP parameters must be specified, and that alternate effectiveness matrices must be read in from unit 3. All parameters and the effectiveness matrices are echoed back in the run header for verification.

5.1.6 Replacement of MOBILE3 Data Example

This example illustrates a MOBILE3 run in which every control flag except ATPFLG is activated. The warning messages printed differ from those discussed in the User's Guide to MOBILE2 only in being in mixed case letters.

```

1 MOBILE3 Example #1: Basic Run (All Defaults, ICY = 80, 88 & 90)
1
1 TAMFLG
1 SPDFLG
1 VMFLAG
1 MYMRFG
1 NEWFLG
1 IMFLAG
1 ALHFLG
1 ATPFLG
1 IFORM
3 PRIFLG
4 ICEVFG
1 IDLFLG
1 NMHFLG
1 Scenario
1 Scenario
1
1 80 19.6 75.0 20.6 27.3 20.6
1 88 19.6 75.0 20.6 27.3 20.6
1 90 19.6 75.0 20.6 27.3 20.6

```


[illegible]

[illegible]

User supplied tampering and misfueling rates.

Cal. Year: 1980

I/M Program: No	Ambient Temp: 75.0 (F)	Region: Low
Anti-tam. Program: No	Operating Mode: 20.6 / 27.3 / 20.6	Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDVV	LDVT	HDDV	MC	All Veh
Veh. Speeds:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.566	0.133	0.088		0.040	0.005	0.001	0.060	0.007	

Composite Emission Factors (Gm/Mile)

Total HC:	5.55	6.99	12.01	8.98	17.20	0.49	1.01		5.30		8.35	6.75
Exhaust CO:	44.25	53.98	75.59	62.58	175.34	1.30	2.16		15.01		29.51	51.43
Exhaust NOx:	2.77	3.07	4.73	3.73	6.56	1.46	1.98		24.91		0.49	4.44

User supplied tampering and misfueling rates:

Cal. Year: 1988	I/M Program: No	Ambient Temp: 75.0 (F)	Region: Low
	Anti-tam. Program: No	Operating Mode: 20.6 / 27.3 / 20.6	Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDVV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.643	0.121	0.087		0.041	0.036	0.015	0.050	0.007	

Composite Emission Factors (Gm/Mile)

	Total HC:	2.27	3.76	4.84	4.21	8.28	0.40	0.62	3.94	6.02	2.94
Exhaust CO:	17.88	29.87	35.48	32.21	89.97	1.32	1.53	1.53	11.63	19.81	22.64
Exhaust NOx:	1.37	2.31	2.76	2.50	5.26	1.17	1.45	1.45	17.74	0.85	2.57

User supplied tampering and misfueling rates.

Cal. Year: 1990	I/M Program: No	Ambient Temp: 75.0 (F)	Region: Low
	Anti-tam. Program: No	Operating Mode: 20.6 / 27.3 / 20.6	Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDV	LDOT	HDV	MC	All Veh
Veh. Speeds:	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.635	0.115	0.086		0.041	0.046	0.021	0.049	0.007	

Composite Emission Factors (Gm/Mile)

Total HC:	1.90	3.21	3.88	3.50	6.21	0.40	0.62	3.51	6.01	2.41
Exhaust CO:	15.14	25.10	28.75	26.66	63.31	1.32	1.53	11.11	19.73	18.34
Exhaust NOX:	1.23	2.04	2.35	2.17	5.17	1.10	1.28	15.22	0.85	2.25

```

1 MOBILE3 Example #3: I/M Program (Default Credits, ICYIM = 83, ICY = 80 & 88)
1
1 SPDFLG
1 VMFLAG
1 MYMRFG
1 NEWFLG
2 IMFLAG
1 ALHFLG
1 ATPFLG
3 IFORM
4 PRIFLG
1 ICEVFG
1 IDLFLG
1 NMHFLG
1 I/M parameters
1 Scenario
1 Scenario

```

```

83 20 1 51 20 1 1 2 1
1 80 19.6 75.0 20.6 27.3 20.6
1 88 19.6 75.0 20.6 27.3 20.6

```


MOBILE3 Example #3: I/M Program (Default Credits, ICYIM = 83, ICY = 80 & 88)

I/M program selected:

Start year (January 1): 1983
 Pre-1981 MYR stringency rate: 20%
 Mechanic training program?: No
 First model year covered: 1951
 Last model year covered: 2020
 Vehicle types covered: LDGV
 1981 & later MYR test type: Idle
 1981 & later MYR test cutpoints: 1.2% ICO / 220 ppm IHC

Total HC emission factors include evaporative HC emission factors.

Cal. Year: 1980	I/M Program: Yes		Ambient Temp: 75.0 (F)		Operating Mode: 20.6 / 27.3 / 20.6		Region: Low		Altitude: 500. Ft.	
	Anti-tam. Program: No									
Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDGV	LDGT	HDGV	LDGT	MC
Veh. Speeds:	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
VMT Mix:	0.666	0.133	0.088	0.040	0.005	0.001	0.060	0.007	0.007	0.007
Composite Emission Factors (Gm/Mile)										
Total HC:	5.74	7.68	12.34	9.53	17.44	0.49	1.01	5.30	8.35	7.01
Exhaust CO:	45.75	58.52	76.70	65.75	175.34	1.30	2.16	15.01	29.51	53.13
Exhaust NOx:	2.88	3.37	4.82	3.95	6.56	1.46	1.38	24.91	0.49	4.57
Cal. Year: 1988	I/M Program: Yes		Ambient Temp: 75.0 (F)		Operating Mode: 20.6 / 27.3 / 20.6		Region: Low		Altitude: 500. Ft.	
	Anti-tam. Program: No									
Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDGV	LDGT	HDGV	LDGT	MC
Veh. Speeds:	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
VMT Mix:	0.643	0.121	0.087	0.041	0.036	0.015	0.050	0.007	0.007	0.007
Composite Emission Factors (Gm/Mile)										
Total HC:	2.23	4.96	5.91	5.36	8.75	0.40	0.62	3.94	6.02	3.17
Exhaust CO:	13.92	39.29	43.37	40.99	91.06	1.32	1.53	11.63	19.81	21.96
Exhaust NOx:	1.56	3.08	3.39	3.21	5.32	1.17	1.45	17.74	0.85	2.85

```

1 MOBILE3 Example #4: Anti-tampering Program (no I/M, Start = 84, ICY = 80 & 88)
1
1 IPROMT
1 TAMFLG
1 SPOFLG
1 VMFLAG
1 MYMRFG
1 NEWFLG
1 INFLAG
1 ALHFLG
2 ATPFLG: 2 = read ATP parameter card + unit 3 AER matrix file.
3 IFORM
4 PRFLG
1 ICEVFG
1 IDLFLG
1 NMHFLG
1
84 75 20 2111
1 80 19.6 75.0 20.6 27.3 20.6
1 88 19.6 75.0 20.6 27.3 20.6
ATP parameters: start, 1st myr, last myr, veh types
Scenario
Scenario

```

Annual: Inspect in non-I/M areas only air pump, catalyst, fuel inlet (not with plumbtesmo), pcv and evaporative canister.

0.57	0.56	0.57	0.56	EVAP/PCV	(PREVIOUS)	*****			
0.05	0.00	0.00	0.00	AIR/CAT	AIR/NCK	0.00	0.00	0.00	0.00
0.00	0.20	0.00	0.15	AIR/TNK	AIR/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.20	0.00	AIR/CAT/NCK	AIR/TNK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.05	AIR/CAT/NCK	AIR/CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT/NCK	CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT/TNK	CAT/TNK	0.00	0.00	0.00	0.00
0.15	0.00	0.00	0.00	AIR	AIR	0.00	0.20	0.00	0.00
0.00	0.63	0.00	0.00	CAT	CAT	0.00	0.05	0.00	0.00
0.00	0.80	0.47	0.00	NCK	NCK	0.00	0.83	0.00	0.00
1.00	0.00	0.00	0.00	TNK	TNK	1.00	0.00	0.00	0.00
0.00	1.00	0.00	0.00	EGR/CAT	EGR/CAT	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	EGR/NCK	EGR/NCK	0.00	0.00	0.00	0.00
0.00	1.00	0.00	0.00	EGR/TNK	EGR/TNK	0.00	0.00	0.00	0.00
0.00	0.00	1.00	0.00	EGR/CAT/NCK	EGR/CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	1.00	EGR/CAT/TNK	EGR/CAT/TNK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT/NCK	CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT/TNK	CAT/TNK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	EGR	EGR	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT	CAT	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	NCK	NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	TNK	TNK	1.00	0.00	0.00	0.00
0.05	0.00	0.00	0.00	AIR/CAT	AIR/CAT	0.00	0.00	0.00	0.00
0.00	0.20	0.00	0.15	AIR/NCK	AIR/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.05	0.00	AIR/TNK	AIR/TNK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.05	AIR/CAT/NCK	AIR/CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	AIR/CAT/TNK	AIR/CAT/TNK	0.00	0.00	0.00	0.00
0.15	0.00	0.00	0.00	CAT/NCK	CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT/TNK	CAT/TNK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	AIR	AIR	0.00	0.00	0.00	0.00
0.00	0.50	0.00	0.00	CAT	CAT	0.00	0.05	0.00	0.00
0.00	0.80	0.00	0.65	NCK	NCK	0.00	0.70	0.00	0.00
1.00	0.00	0.00	0.00	TNK	TNK	1.00	0.00	0.00	0.00
0.00	1.00	0.00	0.00	EGR/CAT	EGR/CAT	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	EGR/NCK	EGR/NCK	0.00	0.00	0.00	0.00
0.00	1.00	0.00	0.00	EGR/TNK	EGR/TNK	0.00	0.00	0.00	0.00
0.00	0.00	1.00	0.00	EGR/CAT/NCK	EGR/CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	1.00	EGR/CAT/TNK	EGR/CAT/TNK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT/NCK	CAT/NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT/TNK	CAT/TNK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	EGR	EGR	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	CAT	CAT	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	NCK	NCK	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	TNK	TNK	1.00	0.00	0.00	0.00

MOBILE3 Example #4: Anti-tampering Program (no I/M, Start = 84, ICY = 80 & 88)

Anti-tampering program selected:

Start year (January 1):	1984
First model year covered:	1975
Last model year covered:	2020
Vehicle types covered:	LDGV

Annual: Inspect in non-I/M areas only air pump, catalyst,
fuel inlet (not with plumbtesmo), pcv and
evaporative canister.

Total HC emission factors include evaporative HC emission factors.

Cal. Year: 1980	I/M Program: No Anti-tam. Program: Yes		Ambient Temp: 75.0 (F) Operating Mode: 20.6 / 27.3 / 20.6		Region: Low Altitude: 500. Ft.					
Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDVV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.666	0.133	0.088		0.040	0.005	0.001	0.060	0.007	
Composite Emission Factors (Gm/Mile)										
Total HC:	5.74	7.68	12.34	9.53	17.44	0.49	1.01	5.30	8.35	7.01
Exhaust CO:	45.75	58.52	76.70	65.75	175.34	1.30	2.16	15.01	29.51	53.13
Exhaust NOx:	2.88	3.37	4.82	3.95	6.56	1.46	1.98	24.91	0.49	4.57

Cal. Year: 1988	I/M Program: No Anti-tam. Program: Yes		Ambient Temp: 75.0 (F) Operating Mode: 20.6 / 27.3 / 20.6		Region: Low Altitude: 500. Ft.					
Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDVV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.643	0.121	0.087		0.041	0.036	0.015	0.050	0.007	
Composite Emission Factors (Gm/Mile)										
Total HC:	2.52	4.96	5.91	5.36	8.75	0.40	0.62	3.94	6.02	3.35
Exhaust CO:	19.70	39.29	43.37	40.99	91.06	1.32	1.53	11.63	19.81	25.68
Exhaust NOx:	1.69	3.08	3.21	3.21	5.32	1.17	1.45	17.74	0.85	2.93


```

1 MOBILE3 Example #5: Anti-tampering Program (I/M, Start = 84, ICY
1 IPROMT = 80, 88, 95)
1 TAMFLG
1 SPDFLG
1 VMFLAG
1 MYMRFG
1 NEWFLG
2 IMFLAG
1 ALHFLG
2 ATPFLG: 2 = read ATP parameter card + unit 3 AER matrix file.
3 IFORM
4 PRIFLG
1 ICEVFG
1 IDLFLG
1 NMHFLG
1 I/M parameters
ATP parameters: start, 1st myr, last myr, veh types
Scenario
Scenario
Scenario

```

83	30	1	68	20	4	2	2	1
84	84	20	221					
1	80	19.6	75.0	20.6	27.3	20.6		
1	88	19.6	75.0	20.6	27.3	20.6		
1	95	19.6	75.0	20.6	27.3	20.6		

Annual: Inspect in I/M areas only air pump, catalyst, fuel inlet (not with plumbtesmo), pcv and evaporative canister.

MOBILE3 Example #5: Anti-tampering Program (I/M, Start = 84, ICY = 80, 88, 95)
I/M program selected:

Start year (January 1): 1983
Pre-1981 MYR stringency rate: 30%
Mechanic training program?: No
First model year covered: 1968
Last model year covered: 2020
Vehicle types covered: LDGV, LDGT1, LDGT2
1981 & later MYR test type: 2500 rpm / Idle
1981 & later MYR test endpoints: 1.2% ICO / 220 ppm IHC

Anti-tampering program selected:

Start year (January 1): 1984
First model year covered: 1984
Last model year covered: 2020
Vehicle types covered: LDGV, LDGT1, LDGT2

* Annual: Inspect in I/M areas only air pump, catalyst, fuel
* inlet (not with plumbtmo), pcv and evaporative
* canister.
*

Total HC emission factors include evaporative HC emission factors.

Cal. Year: 1980	I/M Program: Yes		Ambient Temp: 75.0 (F)		Operating Mode: 20.6 / 27.3 / 20.6		Region: Low		Altitude: 500. Ft.	
	LDGV	LDGT1	LDGT2	LDGT	LDGV	LDGT	LDGT	HDDV	MC	All Veh
Veh. Type:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
Veh. Speeds:	0.666	0.133	0.088		0.040	0.005	0.001	0.060	0.007	
VMT Mix:										
Composite Emission Factors (Gm/Mile)										
Total HC:	5.74	7.68	12.34	9.53	17.44	0.49	1.01	5.30	8.35	7.01
Exhaust CO:	45.75	58.52	76.70	65.75	175.34	1.30	2.16	15.01	29.51	53.13
Exhaust NOx:	2.88	3.37	4.82	3.95	6.56	1.46	1.98	24.91	0.49	4.57

Cal. Year: 1988	I/M Program: Yes		Ambient Temp: 75.0 (F)		Operating Mode: 20.6 / 27.3 / 20.6		Region: Low		Altitude: 500. Ft.	
	LDGV	LDGT1	LDGT2	LDGT	LDGV	LDGT	LDGT	HDDV	MC	All Veh
Veh. Type:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
Veh. Speeds:	0.643	0.121	0.087		0.041	0.036	0.015	0.050	0.007	
VMT Mix:										
Composite Emission Factors (Gm/Mile)										
Total HC:	2.15	3.86	4.84	4.27	8.75	0.40	0.62	3.94	6.02	2.89
Exhaust CO:	12.83	23.04	24.38	23.60	91.06	1.32	1.53	11.63	19.81	17.65
Exhaust NOx:	1.56	2.72	3.05	2.86	5.32	1.17	1.45	17.74	0.85	2.78

Cal. Year: 1995	I/M Program: Yes		Ambient Temp: 75.0 (F)		Operating Mode: 20.6 / 27.3 / 20.6		Region: Low		Altitude: 500. Ft.	
	LDGV	LDGT1	LDGT2	LDGT	LDGV	LDGT	LDGT	HDDV	MC	All Veh
Veh. Type:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
Veh. Speeds:	0.643	0.121	0.087		0.041	0.036	0.015	0.050	0.007	
VMT Mix:										
Composite Emission Factors (Gm/Mile)										
Total HC:	2.15	3.86	4.84	4.27	8.75	0.40	0.62	3.94	6.02	2.89
Exhaust CO:	12.83	23.04	24.38	23.60	91.06	1.32	1.53	11.63	19.81	17.65
Exhaust NOx:	1.56	2.72	3.05	2.86	5.32	1.17	1.45	17.74	0.85	2.78

Veh. Type: Veh. Speeds: VMT Mix:	LDGV		LDGT1		LDGT2		LDGT		HDGV		LDDV		LDDT		HDDV		MC		All Veh
	19.6	0.617	19.6	0.102	19.6	0.086	19.6	0.041	19.6	0.067	19.6	0.035	19.6	0.045	19.6	0.007			
Composite Emission Factors (Gm/Mile)																			
Total HC:	1.29		2.14		2.23		2.18		5.11		0.41		0.66		2.99		6.01		1.64
Exhaust CO:	8.26		12.97		13.15		13.05		37.53		1.34		1.56		10.44		19.73		9.85
Exhaust NOx:	1.24		1.91		1.97		1.93		5.52		1.03		1.17		12.76		0.85		2.05

MOBILE3 Example #6: User Replaces MOBILE3 Data (I/M, ICY = 80, 95 & 15)

IPROMT

TAMFLG

SPDFLG

VMFLAG

MYMRFG

NEWFLG

IMFLAG

ALHFLG

ATPFLG

IFORM

PRTFLG

ICEVFG

IDLFLG

NMHFLG

ZMLTAM. LDGV..no I/M

.LDGT1..no I/M

.LDGT2..no I/M

.HDGV..no I/M

.LDGV..no I/M

.LDGT1..no I/M

.LDGT2..no I/M

.HDGV..no I/M

.DRTAM. LDGV..no I/M

.LDGT1..no I/M

.LDGT2..no I/M

.HDGV..no I/M

JULMYR. LDGV..my ages 1-10

.LDGV..my ages 11-20

.LDGT1..my ages 1-10

.LDGT1..my ages 11-20

.LDGT2..my ages 1-10

.LDGT2..my ages 11-20

.HDGV..my ages 1-10

.HDGV..my ages 11-20

.LDGV..my ages 1-10

.LDGV..my ages 11-20

.LDGT1..my ages 1-10

.LDGT1..my ages 11-20

.LDGT2..my ages 1-10

.LDGT2..my ages 11-20

.HDGV..my ages 1-10

.HDGV..my ages 11-20

.MC....my ages 1-10

.MC....my ages 11-20

of new exhaust basic emission rates (ber) to be entered

New ber specifications

New ber specifications

New ber specifications

New ber specifications

New ber specifications

New ber specifications

New ber specifications

I/M parameters

Average trips per day for each of 8 vehicle types

Average miles per day for each of 8 vehicle types

Scenario (includes 8 average vehicle speeds)

1 1 80 82 1.13 0.23

1 1 83 95 0.13 0.46

1 1 80 80 18.60 2.80

1 1 81 85 2.10 3.00

1 5 1 80 82 1.13 0.23

1 5 1 83 95 0.13 0.46

1 5 2 80 80 18.60 2.80

1 5 2 81 85 2.10 3.00

83 30 1 68 20 4 2 2 1

3.3 3.3 3.3 10.9 3.3 3.3 7.5 3.2

29.4 29.4 29.4 63.6 29.4 29.4 63.6 16.7

1 80 19.6 19.6 19.6 16.0 19.6 19.6 16.0 19.6 81.0 20.6 27.3 20.6

.657.083.057.100.015.070.009.009	Scenario's vmt mix
0.40 .08 .12 .14 .09 .09 .83. 90. 75.	Scenario's additional correction factors parameters
.657.083.057.100.015.070.009.009	Scenario (includes 8 average vehicle speeds)
0.40 .08 .12 .14 .09 .09 .83. 90. 75.	Scenario's vmt mix
.657.083.057.100.015.070.009.009	Scenario's additional correction factors parameters
0.40 .08 .12 .14 .09 .09 .83. 90. 75.	Scenario (includes 8 average vehicle speeds)
	Scenario's vmt mix
	Scenario's additional correction factors parameters

Warning: 0.999 MYR sum not = 1. (will normalize)
 Warning: 0.992 MYR sum not = 1. (will normalize)
 Warning: 0.999 MYR sum not = 1. (will normalize)
 Warning: 0.992 MYR sum not = 1. (will normalize)
 Warning: 0.992 MYR sum not = 1. (will normalize)
 Warning: 1.00 MYR sum not = 1. (will normalize)
 Warning: 0.500E-02 registration with zero mileage
 Warning: 0.130E-01 registration with zero mileage
 Warning: equation 1 zeroes all idle coefficients (and total) for IR=1, IV=1, IP=1
 Warning: equation 2 zeroes all idle coefficients (and total) for IR=1, IV=1, IP=1
 Warning: equation 3 zeroes all idle coefficients (and total) for IR=1, IV=1, IP=2
 Warning: equation 4 zeroes all idle coefficients (and total) for IR=1, IV=1, IP=2
 Warning: equation 5 zeroes all idle coefficients (and total) for IR=1, IV=1, IP=1
 Warning: equation 6 zeroes all idle coefficients (and total) for IR=1, IV=5, IP=1
 Warning: equation 7 zeroes all idle coefficients (and total) for IR=1, IV=5, IP=1
 Warning: equation 8 zeroes all idle coefficients (and total) for IR=1, IV=5, IP=2
 Comment: A/C correction factor will be calculated.
 Value of inputted AC usage parameter is ignored.

MOBILE3 Example #6: User Replaces MOBILE3 Data (I/M, ICY = 80, 95 & 15)
Replacement Tampering and Misfueling Rates Input by User:

Component	Non-I/M Case					
	LDGV		LDGT1		LDGT2	
	ZML	DET	ZML	DET	ZML	DET
Air Pump	0.0	0.0	0.0	0.0	0.0	0.0
Catalyst	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Inlet	0.0	0.0	0.0	0.0	0.0	0.0
Other Misfueling	0.0	0.0	0.0	0.0	0.0	0.0
EGR System	0.0	0.0	0.0	0.0	0.0	0.0
Evap Canister	0.0	0.0	0.0	0.0	0.0	0.0
PCV System	0.0	0.0	0.0	0.0	0.0	0.0

Component	I/M Case					
	LDGV		LDGT1		LDGT2	
	ZML	DET	ZML	DET	ZML	DET
Air Pump	0.0	0.0	0.0	0.0	0.0	0.0
Catalyst	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Inlet	0.0	0.0	0.0	0.0	0.0	0.0
Other Misfueling	0.0	0.0	0.0	0.0	0.0	0.0
EGR System	0.0	0.0	0.0	0.0	0.0	0.0
Evap Canister	0.0	0.0	0.0	0.0	0.0	0.0
PCV System	0.0	0.0	0.0	0.0	0.0	0.0

Emission Factor Modification Profile

Region	Veh.	Pollutant	First MY	Last MY	Base	DR	Altered
1	1	1	1980	1982	1.13	0.23	Yes
1	1	1	1983	1995	0.13	0.46	Yes
1	1	2	1980	1980	18.60	2.80	Yes
1	1	2	1981	1985	2.10	3.00	Yes
1	5	1	1980	1982	1.13	0.23	Yes
1	5	1	1983	1995	0.13	0.46	Yes
1	5	2	1980	1980	18.60	2.80	Yes
1	5	2	1981	1985	2.10	3.00	Yes

I/M program selected:

Start year (January 1): 1983
Pre-1981 MYR stringency rate: 30%
Mechanic training program?: No
First model year covered: 1968
Last model year covered: 2020
Vehicle types covered: LDGV, LDGT1, LDGT2
1981 & later MYR test type: 2500 rpm / Idle
1981 & later MYR test cutpoints: 1.2% IC0 / 220 ppm IHC

Non-methane HC emission factors include evaporative HC emission factors.

User supplied tampering and misfueling rates, basic exhaust emissions rates, veh registration distributions.

Cal. Year: 1980

Cal. Year: 1980	I/M Program: Yes		Ambient Temp: 81.0 (F)		Region: Low					
	Anti-tam. Program: No	Operating Mode: 20.6 / 27.3 / 20.6		Altitude: 500. Ft.						
	Absolute Humidity: 83.00	AC (DB / WB): 1.0 (90.0 / 75.0)								
Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	19.6	19.6	19.6		16.0	19.6	19.6	16.0	19.6	
VMT Mix:	0.657	0.083	0.057		0.100	0.015	0.070	0.009	0.009	
Extra Load:	0.080	0.120	0.140							
Trif in Tow:	0.090	0.090	0.090							
Composite Emission Factors (Gm/Mile)										
Non-Meth HC:	5.33	6.50	13.54	9.37	20.49	0.62	0.99	5.93	7.01	7.06
Exhaust CO:	59.51	71.01	98.49	82.20	270.37	4.07	2.17	18.35	27.95	78.27
Exhaust NOx:	2.86	3.06	4.97	3.84	6.28	1.46	1.99	27.12	0.50	3.45
Hot Stabilized Idle Emission Factors (Gm/Min)										
NM-Idle HC:	-0.02	0.81	1.27	1.00	1.17	0.0	0.12	0.36	1.28	0.0
Idle CO:	0.0	12.44	15.20	13.57	10.96	0.0	0.34	0.89	3.51	0.0
Idle NOx:	0.19	0.09	0.08	0.08	0.06	0.20	0.32	0.92	0.02	0.18

Comment: A/C correction factor will be calculated.
Value of inputted AC usage parameter is ignored.

User supplied tampering and misfueling rates, basic exhaust emissions rates, veh registration distributions.

Cal. Year: 1995

Cal. Year: 1995	I/M Program: Yes		Ambient Temp: 81.0 (F)		Region: Low					
	Anti-tam. Program: No		Operating Mode: 20.6 / 27.3 / 20.6		Altitude: 500. Ft.					
	Absolute Humidity: 83.00		AC (DB / WB): 1.0 (90.0 / 75.0)							
Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	19.6	19.6	19.6		16.0	19.6	19.6	16.0	19.6	
VMT Mix:	0.657	0.083	0.057		0.100	0.015	0.070	0.009	0.009	
Extra Load:	0.080	0.120	0.140							
Trlr in Tow:	0.090	0.090	0.090							
Composite Emission Factors (Gm/Mile)										
Non-Meth HC:	2.41	1.60	2.05	1.79	4.81	1.97	0.63	3.22	5.28	2.46
Exhaust CO:	11.18	14.82	16.13	15.35	56.95	2.92	1.55	12.60	20.95	15.64
Exhaust NOx:	0.99	1.35	1.59	1.45	4.27	1.01	1.14	13.55	0.79	1.50
Hot Stabilized Idle Emission Factors (Gm/Min)										
NM-Idle HC:	-0.02	0.15	0.18	0.16	0.34	0.0	0.12	0.27	0.77	0.0
Idle CO:	0.0	2.35	2.89	2.57	2.55	0.0	0.36	0.84	2.47	0.0
Idle NOx:	0.13	0.03	0.03	0.03	0.02	0.13	0.20	0.25	0.04	0.11

Comment: A/C correction factor will be calculated.
Value of inputted AC usage parameter is ignored.

User supplied tampering and misfueling rates, basic exhaust emissions rates, veh registration distributions.

Cal. Year: 2015

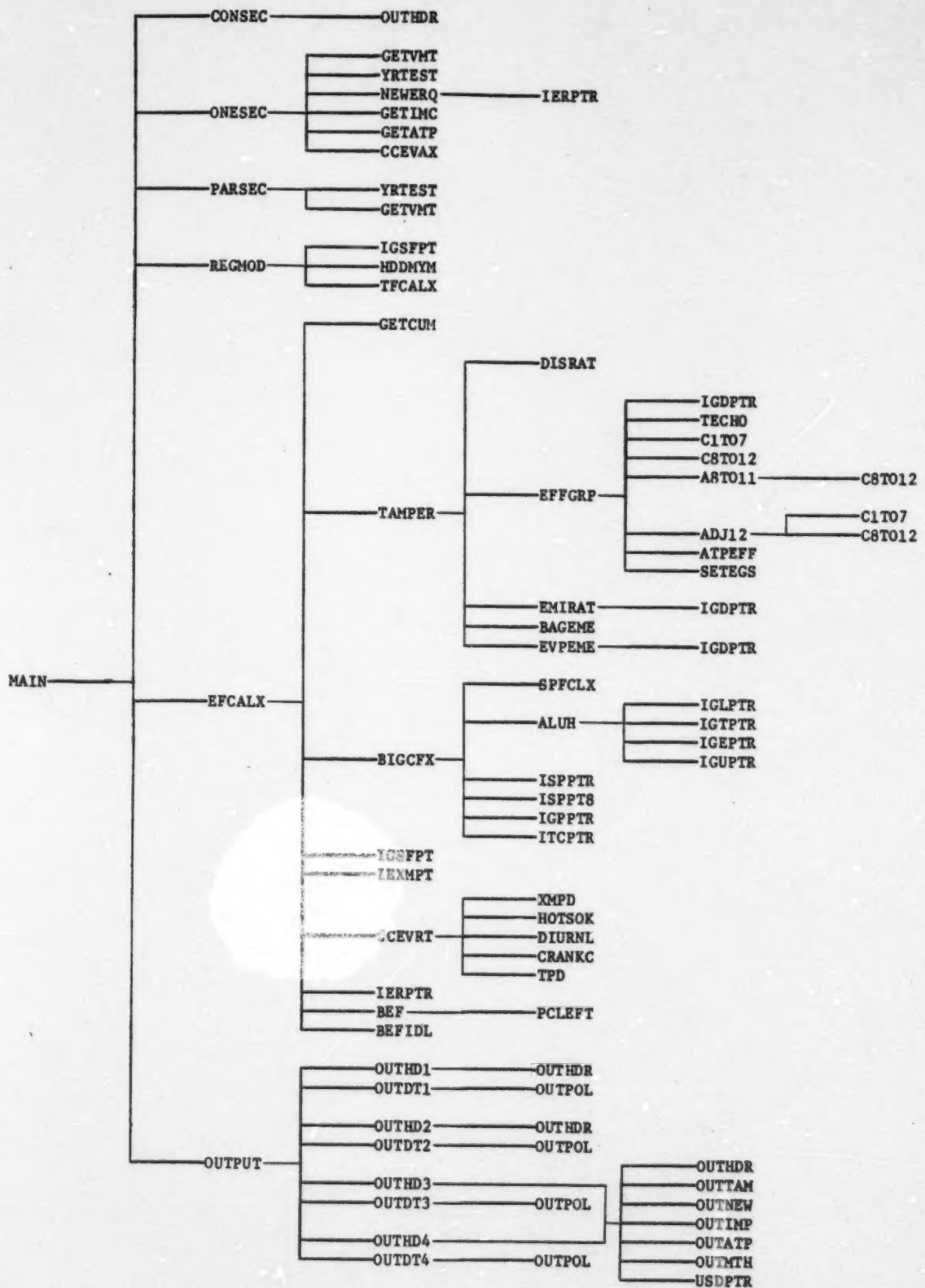
Cal. Year: 2015		I/M Program: Yes		Ambient Temp: 81.0 (F)		Region: Low									
Anti-tam. Program: No		Operating Mode: 20.6 / 27.3 / 20.6		Altitude: 500. Ft.											
Absolute Humidity: 83.00		AC (DB / WB): 1.0 (90.0 / 75.0)													
		LDGT2		LDGT		HDGV		LDDV		HDDV		MC		All Veh	
Veh. Type:		LDGT1						16.0		19.6		19.6			
Veh. Speeds:		19.6						0.100		0.015		0.070		0.009	
VMT Mix:		0.083						0.057		0.015		0.070		0.009	
Extra Load:		0.120						0.140		0.015		0.070		0.009	

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Appendix A

MOBILE3 STRUCTURE CHART

MOBILE3 STRUCTURE CHART



B-i

Appendix B

MOBILE3 MODULE DICTIONARY

MOBILE3 MODULE DICTIONARY

<u>Module</u>	<u>Purpose</u>
MAIN	Controls the overall execution of the program.
CONSEC	Reads into MOBILE3 and verifies the control flags.
ONESEC	Reads into MOBILE3 and verifies the ONE-TIME DATA.
PARSEC	Reads into MOBILE3 and verifies the scenario parameters.
GETIMC	Reads in user-supplied alternative I/M credits.
GETATP	Reads & verifies user-supplied anti-tampering program parameters and effectiveness rates.
YRTEST	Converts a 2-digit input year to a 4-digit year and validates the result.
NEWERQ	Processes user-supplied model year basic exhaust emission rates and zeroes all idle coefficients for the pollutant, vehicle, and region specified. (Since the idle emissions are based solely upon the default emission rates, they are zeroed out when alternate rates are used.)
CCEVAX	Processes user-supplied trip per day and miles per day data.
QUITER	Prints error and warning messages and comments.
REGMOD	Adjusts model year mileage and registration data for January 1 calendar year calculations.
HDDMYM	Computes the weighted calendar year mileage distribution for HDDV's.
TFCALX	Computes the travel fractions for each vehicle type and the VMT mix, if not user-supplied.
EFCALX	Computes the composite FTP, idle and weighted emission factors for each vehicle type.
GETCUM	Computes the January 1 cumulative average mileages for all 8 vehicle types.
TAMPER	Computes the tampering effects on bag emissions and on hot soak, diurnal, & crankcase HC.
DISRAT	Computes the disablement rates for each vehicle type, model year, and mileage distribution.

<u>Module</u>	<u>Purpose</u>
EFFGRP	Constructs the tampering effects technology group sizes.
EMIRAT	Computes/assigns the emission impact rates for the tampering effects groups.
BAGEME	Computes the tampering bag emission effects.
EVAPEME	Computes the tampering evaporative and crankcase HC emission effects.
TECHO	Zeroes out tampering effects group size effects where particular tampering types cannot occur, given the technology.
C1T07	Calculates overlap categories 1 to 7 for tampering effects group sizes.
C8T012	Calculates overlap category sizes 8 to 12 for tampering effects group sizes.
A8T011	Adjusts tampering effects category sizes when any of the non overlapping categories 8 to 11 are negative.
ADJ12	Adjusts all tampering category sizes to eliminate a negative category 12 size.
ATPEFF	Applies the anti-tampering program effectiveness factors to the 11 positive tampering effects categories.
SETEGS	Sets the tampering effects group sizes by combining subsets of the overlap category sizes and weighting by the technology group sizes.
BIGCFX	Determines the basic exhaust emission level correction factors for speed, temperature, humidity, trailer towing, extra load, air conditioning, and percent vehicle-miles-traveled in cold/hot-starts. Also computes the CO Bag 1 and methane offsets.
SPFCLX	Evaluates the 5th degree polynomial (exponentiated for HC and CO) used in computing the speed correction factor for LDGV, LDGT1, LDGT2 and MC.
ALUH	Computes emission correction factors for air conditioning, extra load, trailer-towing, and humidity.

<u>Module</u>	<u>Purpose</u>
CCEVRT	Computes the hydrocarbon crankcase and evaporative emission factors.
HOTSOK	Selects the appropriate hot soak HC value for a given model year, vehicle type and region.
TPD	Selects the appropriate trips/day value for a given model year, vehicle type and region.
DIURNAL	Selects the appropriate diurnal HC value for a given model year, vehicle type and region.
XMPD	Selects the appropriate miles/day value for a given model year, vehicle type and region.
CRANKC	Selects the appropriate crankcase HC value for a given model year, vehicle type and region.
BEF	Determines the basic exhaust model year emission level and adjusts it for operating mode, methane and tampering offsets, temperature, and inspection/maintenance.
PCLEFT	Determines the adjustment that is applied to the basic exhaust emission factor for an inspection/maintenance program.
BEFIDL	Determines the basic idle model year emission level and adjusts it with the methane offset, if necessary.
IGEPTR	Selects the pointer for the fraction of vehicles equipped with air conditioning given the model year, vehicle type, and region.
IGUPTR	Selects the pointer for the fraction of vehicles using air conditioning given the model year, vehicle type, and region.
IGLPTR	Selects the pointer for the fraction of vehicles with extra load given the model year, vehicle type, and region.
IGTPTR	Selects the pointer for the fraction of vehicles with trailer in tow given the model year, pollutant, vehicle type, and region.

<u>Module</u>	<u>Purpose</u>
IGPPTR	Selects the pointer for speed correction factor coefficients given the model year, pollutant, vehicle type, and region.
IERPTR	Selects the pointer for the slope and intercept for values for the exhaust emission rate equation.
ISPPTR	Selects the pointer for the bag speed normalization coefficients (LDV and LDT's only).
ISPPT8	Selects the pointer for the bag speed normalization coefficients (MC only).
IXEMPT	Selects the pointer for the methane offset value given the model year, vehicle type and region.
ITCPTR	Selects the pointer for the temperature correction coefficient given the model year, pollutant, vehicle type, and region.
IGSFPT	Selects the pointer for the gross sales fraction given the model year, vehicle type, and region.
IGDPTR	Selects the pointer for various tampering coefficients.
OUTPUT	Controls the printing of the scenario results.
OUTH1	Prints the run header when the format flag IFORM=1.
OUTH2	Prints the run header when the format flag IFORM=2.
OUTH3	Prints the run header when the format flag IFORM=3.
OUTH4	Prints the run header when the format flag IFORM=4.
OUTHDR	Prints the run title.
OUTTAM	Prints the user supplied tampering effectiveness rates.
OUTNEW	Prints the user supplied alternate emission equations.
OUTIMP	Prints the I/M program parameters, when required.
OUTATP	Prints the user supplied anti-tampering program parameters.
OUTMTH	Prints messages indicating whether hydrocarbon emissions are non-methane or total.

<u>Module</u>	<u>Purpose</u>
USDPTR	Finds the pointers into the user supplied data name array.
OUTDT1	Prints the scenario results when the format flag IFORM=1.
OUTDT2	Prints the scenario results when the format flag IFORM=2.
OUTDT3	Prints the scenario results when the format flag IFORM=3.
OUTDT4	Prints the scenario results when the format flag IFORM=4.
OUTPOL	Determines which pollutant should be printed.
BLOCK DATA 1	Contains speed correction factor coefficients for LDGV's and LDGT's.
BLOCK DATA 2	Contains the model year mileage and model year registration distributions.
BLOCK DATA 3	Contains the first and last model year groups for FTP and idle emission rates.
BLOCK DATA 4	Contains the FTP exhaust emission zero mileage emission and deterioration rates.
BLOCK DATA 5	Contains the idle exhaust emission zero mileage emission and deterioration rates.
BLOCK DATA 6	Contains the default I/M credits for technologies 1 through 2.
BLOCK DATA 7	Contains the default I/M credits for technologies 4 through 10.
BLOCK DATA 8	Contains the methane offset factors.
BLOCK DATA 9	Contains the hot soak evaporative HC emission values and their model year groups.
BLOCK DATA 10	Contains the average number of trips per day values and their model year groups.
BLOCK DATA 11	Contains the diurnal evaporative HC emission values and their model year groups.
BLOCK DATA 12	Contains the average number of miles per day values and their model year groups.
BLOCK DATA 13	Contains the crankcase HC emission values and their model year groups.

<u>Module</u>	<u>Purpose</u>
BLOCK DATA 14	Contains miscellaneous integer-valued system parameters, such as I/O device numbers, calendar year limits and vehicle group pointer vectors.
BLOCK DATA 15	Contains the temperature correction factor coefficients.
BLOCK DATA 16	Contains the bag and FTP emissions normalized by zero mile FTP rate. Also initializes speed correction factor coefficients for HDG and HDD vehicles.
BLOCK DATA 17	Contains the model year groups for normalized bag fractions.
BLOCK DATA 18	Contains the model year groups for speed correction coefficients.
BLOCK DATA 19	Contains the fraction of vehicles equipped with air conditioning, the air conditioning correction factors, extra load correction factors, and the trailer towing correction factors.
BLOCK DATA 20	Contains the model year groups for air conditioning equipped vehicles, air conditioning correction factors, extra load correction factors, and the trailer towing correction factors.
BLOCK DATA 21	Contains the sales fractions of total fleet sales and their model year groups.
BLOCK DATA 22	Contains character string arrays and their associated pointer variables.
BLOCK DATA 23	Contains the tampering calculation data, model year groups, and related parameters.
BLOCK DATA 24	Contains the model year groups for temperature correction factor coefficients.
BLOCK DATA 25	Contains the model year mileage and model year registration distributions for HDDV.
BLOCK DATA 26	Documents common blocks not initialized by any BLOCK DATA subprogram.

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Appendix C

MOBILE3 SOURCE CODE LISTING

Appendix C

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(sequential)

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YRTEST, Subroutine	C-34	OUTH2, Subroutine	C-130
NEWERQ, Subroutine	C-35	OUTH3, Subroutine	C-131
GETIMC, Subroutine	C-37	OUTH4, Subroutine	C-132
GETATP, Subroutine	C-39	OUTHDR, Subroutine	C-133
CCEVAX, Subroutine	C-42	OUTTAM, Subroutine	C-134
QUITER, Subroutine	C-43	OUTNEW, Subroutine	C-136
REGMOD, Subroutine	C-50	OUTIMP, Subroutine	C-137
HDDMYM, Subroutine	C-54	OUTATP, Subroutine	C-139
TFCALX, Subroutine	C-55	OUTMTH, Subroutine	C-141
EFCALX, Subroutine	C-57	USDPR, Subroutine	C-142
GETCUM, Subroutine	C-61	OUTDT1, Subroutine	C-143
TAMPER, Subroutine	C-62	OUTDT2, Subroutine	C-145
DISRAT, Subroutine	C-66	OUTDT3, Subroutine	C-147
EFFGRP, Subroutine	C-71	OUTDT4, Subroutine	C-151
EMIRAT, Subroutine	C-74	OUTPOL, Subroutine	C-155
BAGEME, Subroutine	C-76	BLOCK DATA 01	C-156
EVPEME, Subroutine	C-77	BLOCK DATA 02	C-160
TECHO, Subroutine	C-79	BLOCK DATA 03	C-163
CLTO7, Subroutine	C-81	BLOCK DATA 04	C-170
C8TO12, Subroutine	C-82	BLOCK DATA 05	C-175
A8TO11, Subroutine	C-84	BLOCK DATA 06	C-180
ADJ12, Subroutine	C-86	BLOCK DATA 07	C-196
ATPEFF, Subroutine	C-88	BLOCK DATA 08	C-202
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BIGCFX, Subroutine	C-91	BLOCK DATA 10	C-209
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IGEPTR, Function	C-114	BLOCK DATA 22	C-249
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Appendix C

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A8TO11, Subroutine	C-84	HDDMYM, Subroutine	C-54
BAGEME, Subroutine	C-76	HOTSOK, Function	C-104
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BEFIDL, Function	C-113	IEXMPT, Function	C-122
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BLOCK DATA 03	C-163	IGUPTR, Function	C-115
BLOCK DATA 04	C-170	ISPPT8, Function	C-121
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BLOCK DATA 06	C-180	ITCPTR, Function	C-123
BLOCK DATA 07	C-196	MAIN, Program	C-15
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BLOCK DATA 09	C-206	ONESEC, Subroutine	C-23
BLOCK DATA 10	C-209	OUTATP, Subroutine	C-139
BLOCK DATA 11	C-211	OUTDT1, Subroutine	C-143
BLOCK DATA 12	C-214	OUTDT2, Subroutine	C-145
BLOCK DATA 13	C-216	OUTDT3, Subroutine	C-147
BLOCK DATA 14	C-218	OUTDT4, Subroutine	C-151
BLOCK DATA 15	C-220	OUTHDR, Subroutine	C-133
BLOCK DATA 16	C-227	OUTHDR1, Subroutine	C-129
BLOCK DATA 17	C-235	OUTHDR2, Subroutine	C-130
BLOCK DATA 18	C-238	OUTHDR3, Subroutine	C-131
BLOCK DATA 19	C-240	OUTHDR4, Subroutine	C-132
BLOCK DATA 20	C-244	OUTIMP, Subroutine	C-137
BLOCK DATA 21	C-246	OUTMTH, Subroutine	C-141
BLOCK DATA 22	C-249	OUTNEW, Subroutine	C-136
BLOCK DATA 23	C-250	OUTPOL, Subroutine	C-155
BLOCK DATA 24	C-259	OUTPUT, Subroutine	C-127
BLOCK DATA 25	C-262	OUTTAM, Subroutine	C-134
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CRANKC, Function	C-108	REGMOD, Subroutine	C-50
C1TO7, Subroutine	C-81	SETEGS, Subroutine	C-90
C8TO12, Subroutine	C-82	SPFCLX, Subroutine	C-99
DISRAT, Subroutine	C-66	TAMPER, Subroutine	C-62
DIURNL, Function	C-106	TECHO, Subroutine	C-79
EFCALX, Subroutine	C-57	TFCALX, Subroutine	C-55
EFFGRP, Subroutine	C-71	TPD, Function	C-105
EMIRAT, Subroutine	C-74	USDPRT, Subroutine	C-142
EVPEME, Subroutine	C-77	XMPD, Function	C-107
GETATP, Subroutine	C-39	YRTEST, Subroutine	C-34

Appendix C: MOBILE3 Program Description

June 7, 1984

May 31, 1984

1 C ***** MOBILE3 *****
2 C
3 C
4 C MOBILE3 is the third version of the FORTRAN program implementation of the
5 C Mobile Source Emission Model. It updates and replaces MOBILE2. The model
6 C estimates HC, CO and NOx exhaust and HC evaporative emission factors by
7 C motor vehicles. For information on using the program and on the
8 C differences between MOBILE3 and MOBILE2, consult the User's Guide to
9 C MOBILE3, EPA 460/3-84-002, and the User's Guide to MOBILE2,
10 C EPA 460/3-81-006. Otherwise questions should be directed to:
11 C
12 C Office of Mobile Sources
13 C Emission Control Technology Division
14 C Test and Evaluation Branch
15 C 2565 Plymouth Road
16 C Ann Arbor, Mich. 48105
17 C Telephone: 313-668-4473
18 C FTS 374-8473
19 C
20 C
21 C Source Code Documentation
22 C -----
23 C
24 C The source code itself is commented to assist the users who require a
25 C more detailed understanding of the program than provided in the Guides.
26 C This section provides the following information:
27 C
28 C 1) Execution summary
29 C 2) Source code structure
30 C 3) Source code comments structure
31 C a) Subroutines and functions header format
32 C b) BLOCK DATA subprograms header format
33 C c) In-line comments
34 C 4) Subscript dictionary
35 C 5) Subroutine / function parameter dictionary
36 C
37 C
38 C 1) Execution summary
39 C
40 C Introduction:
41 C
42 C MOBILE3 is a computer model designed to estimate mobile source emission
43 C factors by vehicle type, calendar year and region. The model weights
44 C emissions from the past 20 model years to obtain fleet emissions as of
45 C January 1 of the year requested. The emissions are adjusted to
46 C compensate for tampering, speed, temperature and other factors.
47 C
48 C The MOBILE3 program's MAIN loops through three sections: input,
49 C computation and output. Each of these sections consists of a set of
50 C subroutines, each of which may in turn call other subroutines and
51 C functions to compute their tasks. Descriptions of the sections are
52 C given below, followed by comments on run termination and data storage.
53 C The structure diagram and subprogram dictionary in the User's Guide to
54 C MOBILE3 should aid in the discussion. Note that every subprogram name
55 C is entirely in upper case and every subprogram's role is mentioned.
56 C
57 C Input:
58 C

Appendix C: MOBILE3 Program Description

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59 C The input section of MOBILE3 is responsible for reading in values into
60 C the program. These values can either control subsequent I/O, supply
61 C the one-time data (used for all scenarios) or describe the individual
62 C scenarios to be analysed.
63 C
64 C On the first pass through the code, CONSEC performs the control portion
65 C of the input section. CONSEC reads in the 14 flags which dictate what
66 C user input may be required, how the analysis will be performed, and what
67 C output format and content will be printed.
68 C
69 C Next on the first pass, ONESEC will check the flags for values
70 C indicating one-time data is expected. The data is read in and screened
71 C for being within the ranges expected by the model. If there are no
72 C errors, these values then replace the default values stored in BLOCK
73 C DATA or specify features which are only partially initialized in B.D.
74 C or not at all. Examples of the first case are tampering rates,
75 C registration and mileage accrual rate distributions, basic emission
76 C rates, and trips and miles per day. Examples of the second case are the
77 C Inspection / Maintenance (I/M) program and the Anti-Tampering (A-T)
78 C program. This subroutine calls GETIMC, GETATP, GETVMT, NEWERQ and
79 C CCEVAX to read in I/M, A-T, vmt, emission rate and evaporative related
80 C data, respectively.
81 C
82 C Finally, PARSEC reads in the parameter record for the first scenario.
83 C These parameters are region, calendar year, speed, temperature and
84 C hot / cold start percentages. Depending on the control flags, a new vmt
85 C mix can be entered via GETVMT and / or supplemental correction factors
86 C may also be read. In subsequent passes only PARSEC is called for input.
87 C ONESEC, GETATP and PARSEC call YRTEST to check if a year value is in
88 C the allowed range.
89 C
90 C Computation
91 C
92 C The computation of MOBILE3 emission factors is handled by REGMOD and
93 C EFCALX. Each of these subroutines calls a number of lesser routines,
94 C each of which performs a step or steps in the procedure. REGMOD is
95 C called on the first pass and thereafter only when the calendar year,
96 C region or altitude changes. EFCALX is called on every pass.
97 C
98 C This section generates composite emission factors: corrected emission
99 C rates from the 20 model years up through the calendar year are
100 C weighted together by their registration and mileage distributions.
101 C REGMOD constructs the weighting factors. REGMOD calls HDDMYM to build
102 C the calendar year dependent HDDV mileage distribution and TFCALX to
103 C combine the distributions into travel fraction weights.
104 C
105 C EFCALX is the emission factor calculation driver. First, once-per-
106 C scenario calls are made to assemble the correction and weighting
107 C factors to be used. Correction factors compensate for scenario
108 C deviations from the FTP standard conditions assumed by MOBILE3 in
109 C developing the hard-coded basic emission rates and related data.
110 C GETCUM calculates the cumulative mileage distribution. TAMPER figures
111 C the vehicle tampering offsets, including the counter-effects of an
112 C A-T program. BIGCFX generates the adjustments for speed (via SPFCLX),
113 C temperature, methane and CO offset and cold / hot start operating mode.
114 C BIGCFX also calls ALUH to produce the corrections for air conditioning,
115 C extra loading, trailer towing and humidity.
116 C

117 C Note that the tampering group of 13 subroutines and 1 pointer function
 118 C is the major new feature in MOBILE3. TAMPER calls DISRAT to figure
 119 C disablement rates, EFFGRP to compute tampering effects group sizes,
 120 C EMIRAT to assign emission impact rates, BAGEME to combine group sizes
 121 C and impact rates into bag emission effects, and EVPEME to generate the
 122 C HC evaporative effects. EFFGRP calls TECHO, CIT07, C8T012, A8T011,
 123 C ADJ12, ATPEFF and SETEGS to carry out the series of steps necessary
 124 C to obtain the group sizes. ATPEFF is where the anti-tampering program
 125 C effectiveness rates are applied to reduce the sizes.
 126 C
 127 C EFCALX then loops through each pollutant, vehicle type and model year
 128 C case, computing, correcting, weighting and adding that case's
 129 C contribution to the composite results for the calendar year selected.
 130 C CCEVRT returns the non-exhaust HC factor, including hot soak (HOTSOK),
 131 C diurnal (DIURNL) & crankcase (CRANKC) HC, weighted by trips / day (TPD),
 132 C and miles / day (XMPD). BEF extracts the basic exhaust emission rate,
 133 C corrects it for operating mode, temperature, tampering, methane and CO
 134 C offsets and I/M program, the last via a call to PCLEFT. BEFIDL
 135 C determines the basic idle emission factor. EFCALX itself applies the
 136 C speed and ALUH corrections and the travel fraction weighting factor.
 137 C After all cases have been processed, control is transferred to OUTPUT.
 138 C
 139 C Output
 140 C
 141 C On every pass, OUTPUT routes the results to the report unit using the
 142 C format chosen by the user. Each number (#) of the four possible format
 143 C codes has its own branch in OUTPUT to subroutines labelled OUTHD# and
 144 C OUTDT#. Called only on the first pass, OUTHD# echoes the run title via
 145 C OUTHDR and, if a numeric format, the field headers or, if a descriptive
 146 C format, information pertaining to all scenarios.
 147 C
 148 C Formats 1 and 2 are the numeric formats. Data written out via 1 or 2
 149 C is easily read back into post-processors. There is no narrative aside
 150 C from the run title and the field descriptors at the top of the file.
 151 C Formats 3 and 4 are descriptive formats and are intended for hard-copy
 152 C reports. Run and scenario parameter information is echoed out and
 153 C field descriptors are supplied for each scenario. Depending on the
 154 C control flags, OUTHD3/4 can call OUTTAM (tampering rates), OUTNEW
 155 C (emission rates), OUTIMP (I/M program), OUTATP (A-T program), OUTMTH
 156 C (type HC) and / or USDPTR (user supplied data comments pointers).
 157 C All 4 OUTDT# call OUTPOL to select the pollutants to be printed.
 158 C
 159 C Program termination
 160 C
 161 C After the last scenario is processed, execution is terminated normally
 162 C by an end-of-file (eof) return on PARSEC's attempt to read in another
 163 C scenario record. Abnormal termination can occur prior to that point
 164 C for a number of reasons, as described in the User's Guides. Except for
 165 C GETIMC and GETATP, all errors and warnings are routed through QUITER.
 166 C Just one error aborts a scenario, some errors abort the entire run, and
 167 C 50+ errors of any type also stop the run.
 168 C
 169 C BLOCK DATA and pointer functions
 170 C
 171 C Data variables and arrays are usually passed via common blocks.
 172 C Most of the common storage areas are initialized in a series of 25 BLOCK
 173 C DATA subprograms. The remainder are documented in BLOCK DATA 26 and are
 174 C assigned values during execution (by user input or program computation),

175 C instead of during compilation. To reduce the common area size, much of
 176 C the data was compressed, storing only once a value used by a contiguous
 177 C set of years, usually given the region and vehicle type. By storing
 178 C also these model year ranges, pointer functions can then subsequently
 179 C access the data, picking out the right value for the case being
 180 C evaluated. The pointer functions (with arrays accessed in parentheses)
 181 C are IGEPTR (ACEQIP), IGUPTR (ACCF), IGLPTR (XLCF), IGTPT (TWCF),
 182 C IGPPT (GPACOF, GPBCOF), IERPTR (ZMLBEF, DRBEF, ZMLIDL, DRIDL),
 183 C ISPPTR & ISPPT8 (SPBACK), IEXMPT (EXMETH), ITCPTR (TTACOF, TT4COF),
 184 C IGSFPT (GSFRAC) and IGDPT (TGS, EMEGR, EVPTGS, EVPEMI).
 185 C
 186 C
 187 C 2) Source code structure
 188 C
 189 C This section describes the layout of the code plus the numbering and
 190 C naming conventions.
 191 C
 192 C The source code for the subprograms is grouped as follows:
 193 C
 194 C program header
 195 C MAIN
 196 C input subroutines
 197 C QUITER
 198 C computation subroutines
 199 C computation functions
 200 C pointer functions
 201 C output subroutines
 202 C BLOCK DATA subprograms
 203 C
 204 C Within each grouping and nesting level, the routines usually appear in
 205 C calling order.
 206 C
 207 C The User's Guide listing of the code has each subprogram starting at an
 208 C integral multiple of 1000, simplifying the construction of the Table
 209 C of Contents. That listing also has the comments in mixed case, to
 210 C improve readability. The MOBILE3 tape being mailed out to the user
 211 C community has this mixed case version in File 1. An upper case only
 212 C version, with hyphens replacing underscores and blanks replacing plus
 213 C carriage controls, is in File 2, for use by installations not able to
 214 C process these features. For example, EPCDIC PN character set is upper
 215 C case only.
 216 C
 217 C Statement number ranges are defined for usage as follows:
 218 C
 219 C 1 - 9 - not used
 220 C 10 - 98 - branching
 221 C 99 - branch to last RETURN / RETURN1 / STOP before END
 222 C 100 - 199 - READ formats
 223 C 200 - 299 - WRITE prompt and output formats
 224 C 300 - 399 - WRITE error and warning messages
 225 C 400+ - not used
 226 C
 227 C Statement numbers are local. For example, within each subprogram,
 228 C branch numbers start at 10, READ formats start at 100, etc.
 229 C
 230 C Given FORTRAN's 6 character maximum on subprogram name lengths, useful
 231 C naming conventions are hard to come by. There is also the limitation
 232 C posed by not wanting to change arbitrarily all the subprogram names of

233 C the predecessor program, MOBILE2. Hence, the only conventions are:
 234 C
 235 C a) Input driver sections all have the suffix 'SEC'.
 236 C b) Pointer functions all begin with 'I' (to get default INTEGER typing).
 237 C c) Pointer functions all contain/end with 'PT' or 'PTR'.
 238 C d) Output subroutines all have the prefix 'OUT'.
 239 C
 240 C Otherwise, new subprogram names were picked to indicate the purpose of
 241 C the code.
 242 C
 243 C
 244 C 3) Source code comments structure
 245 C
 246 C Each subprogram contains a documentation header, set up in a standard
 247 C format as described below. All variables and arrays used in the code
 248 C are defined in the comments. The subroutine / function headers define
 249 C local parameters and local variables / arrays. The BLOCK DATA headers
 250 C describe the COMMON storage areas. Array subscripts and subprogram
 251 C parameters are specified in dictionaries following this section. The
 252 C intent is to allow the user to scan the source code on-line for
 253 C definitions, rather than have to leaf through hard-copy documentation
 254 C such as MOBILE2's APPENDIX A.
 255 C
 256 C a) Subroutines and functions header format
 257 C
 258 C <subprogram name>
 259 C
 260 C <short description of purpose>
 261 C
 262 C Called by <subprogram name(s)>
 263 C
 264 C Calls <subprogram name(s)>
 265 C
 266 C Input on call:
 267 C
 268 C parameter list: <names>
 269 C common block(s):
 270 C /<cb name>/ <names>
 271 C . .
 272 C . .
 273 C
 274 C Output on return:
 275 C
 276 C parameter list: <names>
 277 C common block(s):
 278 C /<cb name>/ <names>
 279 C . .
 280 C . .
 281 C
 282 C Local array subscripts:
 283 C
 284 C <name>(<#>,...) - <name>(<name>,...)
 285 C . .
 286 C . .
 287 C
 288 C Local variable / array dictionary:
 289 C
 290 C

Name	Type	Description
------	------	-------------

```

291 C C -----
292 C C <name> <type>          <short description>
293 C C . . .
294 C C . . .
295 C C
296 C C Notes:
297 C C
298 C C <notes on subprogram, particularly changes from MOBILE2>
299 C C
300 C C
301 C C <code>
302 C
303 C Notes on format:
304 C
305 C A local variable is one not passed in via the parameter list
306 C or a common block. It can be used in the argument list of a
307 C subprogram call made by the defining subprogram.
308 C
309 C Also, if a section of the header is not needed, its format is
310 C omitted. For example, if no subprograms are called, then the
311 C 'C Calls <names>' line is not included.
312 C
313 C Finally, 'Output on return' includes any variable / array whose
314 C contents can be modified by the subprogram. This usually will not
315 C include data that can be changed by subprograms called by the
316 C subprogram, since the comment headers on those subprograms will
317 C indicate what is being passed back up.
318 C
319 C b) BLOCK DATA subprogram header format
320 C
321 C BLOCK DATA
322 C C
323 C C BLOCK DATA subprogram <#>
324 C C
325 C C <short description of data initialized in this BLOCK DATA>
326 C C
327 C C Common block array subscripts:
328 C C
329 C C <name>(<#>,...) - <name>(<name>,...)
330 C C . .
331 C C . .
332 C C
333 C C Common block dictionary:
334 C C
335 C C Name Type Description
336 C C -----
337 C C /<cb name>/:
338 C C <name> <type>          <short description>
339 C C . . .
340 C C . . .
341 C C
342 C C Local array subscripts:
343 C C
344 C C <name>(<#>,...) - <name>(<name>,...)
345 C C . .
346 C C . .
347 C C
348 C C Local array dictionary:

```



```

349 C      C
350 C      C      Name      Type      Description
351 C      C      -----
352 C      C      <name> <type>      <short description>
353 C      C      .      .      .
354 C      C      .      .      .
355 C      C
356 C      COMMON /<name 1>/ ...
357 C      .
358 C      .
359 C      .
360 C      C
361 C      DIMENSION (or type) <array 2>(subscript(s))
362 C      .
363 C      .
364 C      C
365 C      EQUIVALENCE (<array 1, subscripted>,<array 2, subscripted>)
366 C      .
367 C      .
368 C      .
369 C      C
370 C      C      /<name 1>/: <any comments on <name 1>'s labels, purpose or data
371 C      C      or on the structure of the initializing DATA
372 C      C      statement(s)>
373 C      C
374 C      DATA <var/arr name 1>/<data>...
375 C      .
376 C      .
377 C      .
378 C      .../
379 C      C
380 C      C      /<name 2>/: ...
381 C      .
382 C      .
383 C      .
384 C      END
385 C
386 C      Notes on format:
387 C
388 C      Local arrays are defined and then equivalenced to common block arrays
389 C      that are too large to be initialized in 1 DATA statement. Too large =
390 C      would require greater than 19 continuation lines, the FORTRAN limit.
391 C
392 C      The local arrays dictionary is often compressed by providing a
393 C      generic definition of the conventions used to construct and name the
394 C      set of local arrays to be equivalenced to a given common array.
395 C
396 C      "/<name #>/: " prefix is included only if a large number of common
397 C      blocks are being initialized in a single BLOCK DATA (see BD 23).
398 C
399 C
400 C      c) In-line statements
401 C
402 C      In-line comments are intended to describe the algorithm being used
403 C      by the code. Where MOBILE3 is identical to MOBILE2 in operation,
404 C      the MOBILE2 comments have usually been left intact. Where the
405 C      method has been updated or the whole section / subprogram is new,
406 C      the in-line comments describe the MOBILE3 methodology.

```

407 C
 408 C Particular attention is paid to the use of indices and pointers.
 409 C Some of the ambiguities of MOBILE2, such as the use of IDX vs JDX,
 410 C have been cleared up. The usage of new keys and pointers, as in
 411 C the TAMPER group of routines, is specified in detail where they
 412 C occur.
 413 C
 414 C

4) Subscript dictionary

415 C
 416 C
 417 C Subscript variables used to index arrays in MOBILE3 are globally
 418 C defined, not in the sense that the values are available to all
 419 C subprograms, but rather that the same label is used for the same
 420 C subscript function throughout the code. IP is the 3 pollutants index
 421 C for all of MOBILE3, although its instances are usually as a local
 422 C variable. As array subscripts, all these variables must be of type
 423 C INTEGER. The default INTEGER typing syntax rule is employed by having
 424 C all subscripts begin with a letter from the range I through N.
 425 C

Name	Range	Description
-----	-----	-----
IAD	1-5	index into ID dimension of ATR for ADJFAC equation
IADJ	1-2	index into CSIZE adjustment vector ADJFAC
IAY	1-2	anti-tampering program start year flag: 1 = in year range up thru start year 2 = in year range after start year
IB	1-3	bag number: 1 = cold start 2 = hot stabilized 3 = hot start
IBER	1-2	terms of user supplied new emission rate equation: 1 = zero mile level (intercept) 2 = deterioration rate (slope)
IC	1-7	overlap effects categories computed direct from base tamper rates; each case is the set intersection of the indicated disablement types: 1 = AIRS * CATS 2 = AIRS * NCKS 3 = AIRS * TNKS 4 = AIRS * CATS * NCKS 5 = AIRS * CATS * TNKS 6 = CATS * NCKS 7 = CATS * TNKS
	8-12	no overlap effects categories computed from the 7 overlap cases: 8 = AIRS 9 = CATS 10 = NCKS 11 = TNKS 12 = <no tampering effect>
ICH	1-20	character string array position index:

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465	C			1 = 1st 4/8 characters (INT or REAL = 4, REAL*8 = 8)
466	C			2 = 2nd 4/8 characters
467	C			.
468	C			.
469	C			
470	C	ICOEFF	1-6	coefficient number of 5th degree polynomial
471	C			(0th (intercept) to 5th degree term coefficients)
472	C			
473	C	ICS	1-NT	secondary index: selects pointers to category
474	C			sizes to be summed up to get SUB (in CBT011) and
475	C			DIV (in ABT011)
476	C			
477	C	IC11	1-11	positive tampering effects categories 1-11; 12 is the
478	C			no effects case.
479	C			
480	C	IC7	1-7	overlap tampering effects categories 1-7
481	C			
482	C	ID	1-7	disablement types (1-5 for bag, 6-7 for evap):
483	C			1 = AIRS = air pump disabled
484	C			2 = CATS = catalyst removed
485	C			3 = NCKS = misfueled - filler neck
486	C			4 = TNKS = misfueled - tank (all but filler neck)
487	C			5 = EGRS = EGR disabled
488	C			6 = EVAP = evap tampered
489	C			7 = PCVS = PCV disabled
490	C			
491	C	IDX	1-20	model year (my) window index:
492	C			1 = 20+ my age group cell => tamper effect is
493	C			always 0.0 => this case skipped in TAMPER (only)
494	C			2 = 19th my cell
495	C			3 = 18th my cell
496	C			.
497	C			.
498	C			.
499	C			19 = 2nd my cell
500	C			20 = 1st my cell = calendar year (ICY)
501	C			
502	C	IEG	1-7	tampering effects group:
503	C			1 = air pump disabled, air pump only equipped
504	C			2 = air pump disabled, air pump/catalyst equipped
505	C			3 = catalyst removed
506	C			4 = misfueled catalyst
507	C			5 = EGR disabled
508	C			6 = EGR disabled / catalyst removed
509	C			7 = EGR disabled / misfueled
510	C			
511	C	IEK	1-3	catalyst emission effects groups: IEK = IEG - 1
512	C			
513	C	IELST	4-7	last non-zero tampering effects group size, given IPG
514	C			
515	C	IEQU	1-20	pointer to idle equation to be zeroed out due to entry
516	C			of new exhaust ef equation by user
517	C			
518	C	IERNEW	1-20	pointer to location in default ef rates & model years
519	C			arrays where new ef equation's parameters are to be
520	C			stored (IERNEW = 0 => no space for new equation)
521	C			
522	C	IEX	1-5	model year group pointer into EXMETH

523	C			
524	C	IEIST	1-3	first non-zero tampering effects group size, given IPG
525	C			
526	C	IFAC	1-100	index into new (user supplied) emission rates arrays;
527	C			the user can enter up to 100 replacement cases.
528	C			
529	C	IFG	1-13	flag names for prompts (listed by common block used):
530	C			/FLAGS1/ /FLAGS2/ /FLAGS3/
531	C			1 = TAMFLG 4 = MYMRFG 9 = IFORM
532	C			2 = SPDFLG 5 = NEWFLG 10 = PRTFLG
533	C			3 = VMFLAG 6 = IMFLAG 11 = ICEVFG
534	C			7 = ALHFLG 12 = IDLFLG
535	C			8 = ATPFLG 13 = NMHFLG
536	C			The 14th flag (or 0 = IPROMT) is read without a prompt.
537	C			
538	C	IG<i>	1-20	model year group pointer:
539	C			<i> = null string, E, L, S, T, U, 1, 2, 3, 4
540	C			IG links a data array to its corresponding myg index
541	C			array. These data arrays all have my as a subscript
542	C			plus have cases of contiguous subsets of years with
543	C			the same data point. Core space is then saved by
544	C			storing each point only once per my subset and then
545	C			constructing an index array to enable the program to
546	C			find the location IG<i> of the data point for a given
547	C			my.
548	C			
549	C	IH	1-3	non-exhaust HC emission case:
550	C			1 = hot soak evaporative
551	C			2 = diurnal evaporative
552	C			3 = crankcase
553	C			
554	C	IHG	1-2	non-exhaust HC technology / tampering case:
555	C			1 = evaporative
556	C			2 = crankcase
557	C			
558	C	ILU	1-2	bounds of a value range (ex.: tags of nonzero
559	C			category sizes):
560	C			1 = lower bound
561	C			2 = upper bound
562	C			
563	C	IM	1-2	I/M program flag:
564	C			1 = I/M program not in effect before evaluation
565	C			year
566	C			2 = I/M program is in effect before evaluation
567	C			year
568	C			
569	C	INO	1-2	index into NOYES character string vector:
570	C			1 = No 2 = Yes
571	C			
572	C	IP	1-3	pollutants:
573	C			1 = HC = hydrocarbon
574	C			2 = CO = carbon monoxide
575	C			3 = NOx = oxides of nitrogen
576	C			
577	C	IPAR	1-5	parameters identifying where and when to apply user
578	C			supplied new emission rates:
579	C			1 = region
580	C			2 = vehicle type 4 = first my of range covered

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581	C			3 = pollutant	5 = last my of range covered
582	C				
583	C	IPG	1-2	pollutants grouped for tampering effects:	
584	C			1 = HC and CO	
585	C			2 = NOX	
586	C				
587	C	IP1	1-3	lower bound of output IP loop (first pollutant to have results printed)	
588	C				
589	C				
590	C	IP2	1-3	upper bound of output IP loop (last pollutant to have results printed)	
591	C				
592	C				
593	C	IQG	1-6	emission control equipment group; 2 more groups computed from the stored 6 groups data:	
594	C			1 = air pump only	
595	C			2 = air pump / catalyst	
596	C			3 = catalyst only	
597	C			4 = EGR only	
598	C			5 = EGR / 3-way catalyst	
599	C			6 = no EGR / 3-way catalyst	
600	C				
601	C				
602	C	IR	1-3	region code:	
603	C			1 = low altitude	
604	C			2 = high altitude	
605	C			3 = mid (interpolated between low and high) altitude	
606	C				
607	C	IS	1-4	overlap tampering effects category sizes 8-11 (IS = IC - 7); used in ABT011.	
608	C				
609	C				
610	C	ISC	1-5	underscore string repetition counter - for example, ISC = 3 => repeat the string 3 times	
611	C				
612	C				
613	C	ISP	1-21	my group pointer into speed correction equation array; found by ISPPTR or ISPPT8; indexes AIN & SPBACK.	
614	C				
615	C				
616	C	IT	1-9	pointer to temperature correction equation coefficients; found by ITCPTR; indexes TTA/4/7COF arrays.	
617	C				
618	C				
619	C				
620	C	ITER	1-4	unspecified string iterations counter; same usage as ISC, only with any string	
621	C				
622	C				
623	C	ITY	1-3	type tampering rates wrt I/M table heading substring pointer	
624	C				
625	C				
626	C	IV	1-8	vehicle types evaluated by MOBILE3:	
627	C			1 = LDGV = light duty (ld) gasoline fueled vehicle	
628	C			2 = LDGT1 = ld gasoline fueled truck, <= 6000 lbs.	
629	C			3 = LDGT2 = ld gasoline fueled truck, 6001-8500 lbs.	
630	C			4 = HDGV = heavy duty gasoline fueled vehicle	
631	C			5 = LDDV = light duty diesel fueled vehicle	
632	C			6 = LDDT = light duty diesel fueled truck	
633	C			7 = HDDV = heavy duty diesel fueled vehicle	
634	C			8 = MC = motorcycle	
635	C				
636	C	IV<i>	1-6	vehicle type subgroups; index correction factor arrays;	
637	C			<i> = G, T, A or B, defined as:	
638	C			IVG	IVT IVA IVB

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639	C			1 = LDGV	1 = LDGV	1 = LDGV	1 = HDGV
640	C			2 = LDGT1	2 = LDGT1	2 = LDGT1	2 = LDDV
641	C			3 = LDGT2	3 = LDGT2	3 = LDGT2	3 = LDDT
642	C			4 = LDDV	4 = LDDV	4 = MC	4 = HDDV
643	C			5 = LDDT	5 = LDDT		
644	C			6 = MC	6 = MC		
645	C			indexes:			
646	C			MYGSPD	TTACOF	SCFADJ	GPBCOF
647	C			GPACOF		ISPGRP	
648	C					ALHRET	
649	C			See subroutines BIGCFX & ALUH and function ISPPTR.			
650	C						
651	C	IVF1	1-6	vehicle class types for MOBILE1 numeric output			
652	C			format (IFORM = 1):			
653	C			1 = LDV	3 = LDT2	5 = HDD	
654	C			2 = LDT1	4 = HDG	6 = MC	
655	C						
656	C	IVF2	1-9	vehicle class types for MOBILE2 numeric output			
657	C			format (IFORM = 2):			
658	C			1 = LDGV	4 = LDGT	7 = LDDT	
659	C			2 = LDGT1	5 = HDGV	8 = HDDV	
660	C			3 = LDGT2	6 = LDDV	9 = MC	
661	C						
662	C	IVF3	1-10	vehicle class types for MOBILE3 descriptive output			
663	C			format (IFORM = 3): same as IVF2 plus 10 = All Vehicles			
664	C						
665	C	IVIM	1-3	vehicle class types that can be included in MOBILE3			
666	C			inspection / maintenance (I/M) programs:			
667	C			1 = LDGV	2 = LDGT1	3 = LDGT2	
668	C						
669	C	IVP	1-3	vehicle types whose ef's can be modified by correction			
670	C			factors for extra load, trailer towing &/or CO offset:			
671	C			1 = LDGV	2 = LDGT1	3 = LDGT2	
672	C						
673	C	IVTAM	1-4	vehicle types impacted by tampering:			
674	C			1 = LDGV	2 = LDGT1	3 = LDGT2	4 = HDGV
675	C						
676	C	IV9	1-9	vehicle type categories for output arrays EFEVAP,			
677	C			EFIDLE, & EFFTP. First 8 are identical to IV's.			
678	C			9 = LDGT			
679	C			= LDGT1 + LDGT2, each weighted by its vmt share			
680	C						
681	C	I2ND	1-4	secondary index (pointer into a pointer vector)			
682	C						
683	C	JCS	1-7	pointer to category size to be summed into DIV			
684	C			(in A8T011) or (* TGSUSE) into EGS (in SETEGS)			
685	C						
686	C	JDX	10-1	model year window index = age of vehicle relative to			
687	C			ICY + 1. In detail:			
688	C			20 = 20+ my age group cell => tamper effect is			
689	C			always 0.0 => this case skipped in TAMPER (only)			
690	C			19 = 19th my cell			
691	C			18 = 18th my cell			
692	C			.			
693	C			.			
694	C			.			
695	C			2 = 2nd my cell			
696	C			1 = 1st my cell = calendar year (ICY)			

697 C
 698 C JG 1-20 model year group pointer = IG or 21 - IG, depending on
 699 C whether looking for match or unused cell, respectively,
 700 C in MYGERQ.
 701 C
 702 C JOU 1-3 output unit key:
 703 C cell 1 is assigned IOUREP's value
 704 C cell 2 is assigned IOUERR's value
 705 C cell 3 is assigned IOUASK's value
 706 C
 707 C JPGD 1,5 pointer to base tamper rate to be used in
 708 C computing CSIZE(1-3, IAY). Depends on IPG.
 709 C
 710 C JU 1-9 input / output (i/o) device unit numbers
 711 C
 712 C KDX 1-21 model year window index = ICY - 1979, unless result is
 713 C < 1 (=> = 1) or > 21 (=> = 21); used by HDDMYM
 714 C
 715 C LINES 1-9 number of lines in user entered data set title
 716 C
 717 C
 718 C

5) Subroutine / function parameter dictionary

Variables / arrays occurring in 1 or more of the subprogram parameter lists are defined in this section, unless the variable is a subscript, in which case look it up in 4)'s subscript dictionary. The motivation for defining all the parameter lists in one place is to have only one instance of a definition in the code plus to encourage only one use for a mnemonic in the code plus the combined lists contain only 18 names after subscripts have been removed. Whether scanning on-line or off a listing, the lookup will be quick.

Parameter array subscripts

 CSFUSE(7) - CSFUSE (IC7)
 CSFIST(7,2) - CSFIST (IC7, IPG)
 SALHCF(20,3,8,2) - SALHCF (IDX, IP, IV, IR)
 SPARA(8) - SPARA (IV)
 SPBACK(18,3,8) - SPBACK (IG, IP, IV)

Name	Type	Description
CSFUSE	R	category size factors used * ATR to calculate CSIZE
CSFIST	R	category size factor for 1st calculation of CSIZE
ICASE	I	flags the my groups array to be searched.
ICY	I	calendar year for which emission factors are calculated
INERR	I	cumulative count of data entry errors
IOUOUT	I	unit number on which title is printed
IVALUE	I	entered integer value causing error / warning message
IY	I	year to test and adjust to 4-digit year
IY1	I	lower 4-digit bound for IY
IY2	I	upper 4-digit bound for IY
MESSAG	I	message code sent by calling subprogram
MY	I	model year
NERR	I	number of error if IY is out of bounds
RVALUE	R	entered real value causing error / warning message
SALHCF	R	speed and optional correction factors to apply to basic

Appendix C: MOBILE3 Program Description

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755	C		emission factors
756	C	SPARA	R average speed for each vehicle type
757	C	SPBACK	R speed correction factors, adjusting bef's, which are
758	C		calculated at an assumed average speed of 19.6 mph, to
759	C		ef's at the user entered scenario average speed
760	C	VMTAGE	R vehicle cumulative mileage
761	C		
762	C		IC, IDX, IG, IM, IP, IP1, IP2, IR and IV are parameters defined in the
763	C		subscript dictionary.
764	C		
765	C		
766	C		
767	C		
768	C		


```

1000 C MAIN
1001 C
1002 C MAIN is the MOBILE3 driver. It sets up the run and then loops through
1003 C scenarios.
1004 C
1005 C Calls CONSEC, ONESEC, PARSEC, REGMOD, EFCALX and OUTPUT.
1006 C
1007 C Since MAIN is not "called" and does not "return", the I/O interface
1008 C documentation will list the variables passed in argument lists or common
1009 C blocks and used in MAIN:
1010 C
1011 C   argument lists: ICY,INERR
1012 C   common blocks:
1013 C   /IOUCOM/ IOUERR
1014 C   /REGCOM/ IREJN,ALT
1015 C
1016 C Local variable dictionary:
1017 C
1018 C   Name      Type      Description
1019 C   -----
1020 C   ALTOLD    R        altitude code from previous pass of scenario loop
1021 C   ICYOLD    I        calendar year from previous pass of scenario loop
1022 C   IROLD     I        region from previous pass of scenario loop
1023 C
1024 C Notes:
1025 C
1026 C MOBILE3 splits INPUT into CONSEC, ONESEC and PARSEC, corresponding to the
1027 C input and processing of the values for the Control, One-time Data and
1028 C Parameter sections, respectively. the I/O interface with MAIN is
1029 C simplified: INITFL is eliminated - one does not have to distinguish between
1030 C setup and scenario calls within one subroutine. IRDFLG was replaced by
1031 C a RETURN1 direct to 99.
1032 C
1033 C
1034 C   INTEGER TAMFLG,SPDFLG,VMFLAG,ALHFLG,ATPFLG,PRTFLG
1035 C   REAL JULMYR,JANMYR
1036 C   REAL LHDVM,MHDVM,HHDVM,LHDRG,MHDRG,HHDRG
1037 C   REAL*8 USNAME
1038 C
1039 C   COMMON /ACOM/   AIN(6,21,3)
1040 C   COMMON /ALUHAC/ ACEQIP(8,3,2),ACCF(2,3,2,3,2)
1041 C   COMMON /ALUHLT/ XLCF(3,6,3,2),TWCF(3,6,3,2)
1042 C   COMMON /ALUPAC/ MYGACE(8,3,2),MYGACC(2,3,2)
1043 C   COMMON /ALUPLT/ MYGXLC(6,3,2),MYGTWC(6,3,2)
1044 C   COMMON /ATPPAR/ LAPSY,LAPIST,LAPLST,LVTFLG(4),NLAT,ATNAME(20,9)
1045 C   COMMON /BASETR/ BTR(7,2),ZMLTAM(7,2,4),DRTAM(7,2,4)
1046 C   COMMON /BEICMD/ DRBEF(20,3,8,2)
1047 C   COMMON /BEFCMZ/ ZMLBEF(20,3,8,2)
1048 C   COMMON /BEFGCM/ EXMETH(3,5,8,2),MYGEXM(5,8,2)
1049 C   COMMON /CEVCOM/ USRTPD(8),USRMPD(8)
1050 C   COMMON /CRACOM/ MAXCRA,CRAVAL(3,8,2),MYGCRA(3,8,2)
1051 C   COMMON /CUMCOM/ CUMMIL(20,8)
1052 C   COMMON /DIUCOM/ MAXDIU,DIUVAL(13,8,2),MYGDIU(13,8,2)
1053 C   COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
1054 C   COMMON /EMECAL/ EM3W(3,3,3),EMOX(3,3,3),EMEGR(4,3,3),EMI(7,3,3)
1055 C   COMMON /ERQCOM/ MYGERQ(20,2,3,8,2)
1056 C   COMMON /EVPDAT/ EVPAER(2,2),EVPTGS(3,2,4),EVPEMI(11,3,4)
1057 C   COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG

```

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1058 COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
1059 COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
1060 COMMON /GPCCOM/ GPACOF (8,13,3,6),GPBCOF (3,3,3,4)
1061 COMMON /GSFCOM/ MAXGSF,GSFRAC (22,8,2),MYGSF (22,8,2)
1062 COMMON /HDDMAR/ C2BDVM (20),LHDVM (20),MHDVM (20),HHDVM (20)
1063 COMMON /HDDREG/ C2BDRG (21),LHDRG (21),MHDRG (21),HHDRG (21)
1064 COMMON /HOTCOM/ MAXHOT,HOTVAL (13,8,2),MYGHOT (13,8,2)
1065 COMMON /IDLCHD/ DRIDL (20,3,8,2)
1066 COMMON /IDLCMZ/ ZMLIDL (20,3,8,2)
1067 COMMON /IMCR12/ CRED12 (19,20,5,2,2)
1068 COMMON /IMCR4P/ CRED4P (19,2,7,3,3)
1069 COMMON /IMPAR1/ ICYIM,ISTRIN,INTFLG,MODYR1,MODYR2
1070 COMMON /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME (20,9)
1071 COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
1072 COMMON /ISPCOM/ MYGSPD (21,2,3),MYGSMC (21,2,3)
1073 COMMON /IVPCOM/ IVPTRG (8),IVPTRT (8),IVPTRA (8),IVPTRB (8)
1074 COMMON /LNKCOM/ SPD (8),AMBT,PCCN,PCHC,PCCC
1075 COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
1076 COMMON /MYCODE/ MY,IDX,JDX,LDSY,LDMYR,IAY
1077 COMMON /MYRCAL/ XMYM (20,8),JANMYR (20,8),TF (20,8),TFMYM (20,8)
1078 COMMON /MYRSAV/ AMAR (20,8),JULMYR (20,8),NEWCOM
1079 COMMON /MYUBPT/MYTG (10,6,4),MYEGR (4,4),MYVTS (3,2,4),MYVEI (11,2,4)
1080 COMMON /NEWCOM/ NEWPAR (5,100),BERNEW (2,100),NEWFIT (100),NEWCT
1081 COMMON /NEWEQU/ MAXEQU
1082 COMMON /OFFCOM/ OFFCO (20,3),OFFMTH (20,8)
1083 COMMON /OMTCOM/ OMTCF (20,3,8),OMTTAM (20,3,4)
1084 COMMON /PROJCM/ PROJID (20)
1085 COMMON /PTRCOM/ MAXIGP,MYGPBA (13,3,2,8)
1086 COMMON /REGCOM/ IREJN,ALT
1087 COMMON /REGSUM/ GSFVCT (8)
1088 COMMON /RESULT/ EFFTP (3,9),WFTP (3),EFEVAP (9),EFIDLE (3,9),WIDLE (3)
1089 COMMON /RET1/ ALHRET (20,4,3)
1090 COMMON /SIZCAL/ ATR (7),TGSUSE,CSIZE (12),CSAE (12)
1091 COMMON /SIZPAR/ NTERMS (4),INDXCS (5,4)
1092 COMMON /STRING/ NOYES (2),COMMA,PERIOD
1093 COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
1094 COMMON /TAMOUT/ TAMBAG (3,3,20,4),TAMEVP (3,20,4)
1095 COMMON /TCCOM1/ TTACOF (2,3,9,3,6),TT4COF (2,9,3),TT7COF (2,3)
1096 COMMON /TCCOM2/ MAXTCF,MYGTCTF (9,3,2,8)
1097 COMMON /TPDCOM/ MAXTPD,TPDVAL (2,8,2),MYGTPD (2,8,2)
1098 COMMON /USDATA/ USNAME (4,4),NUSD,IUSD (4)
1099 COMMON /VMXCOM/ VMTMIX (8)
1100 COMMON /XCFS1/ AC,XLOAD (3),TRAILR (3),ABSHUM,DB,WB
1101 COMMON /XMPCOM/ MAXXMP,XMPVAL (2,8,2),MYGMPD (2,8,2)
1102 COMMON /YEARS4/ IY1941,IY1960,IY2020
1103 C
1104 C Setup run.
1105 C
1106 INERR=0
1107 ICYOLD=-1
1108 IROLD=-1
1109 ALTOLD=-1.
1110 C
1111 C Alternate RETURN1 is the fatal read error exit: execution stops.
1112 C
1113 CALL CONSEC (&99)
1114 CALL ONESEC (INERR,&99)
1115 C

```

```

1116 C Enter scenario loop.
1117 C
1118 10 CALL PARSEC(ICY,INERR,&99)
1119 C
1120 C 50+ errors is (arbitrary) run limit => stop execution. Otherwise,
1121 C one or more input processing errors => abort current scenario & then do
1122 C input processing for error diagnostics on the remaining scenarios. INERR
1123 C is never reset to 0, but instead accumulates until the run ends or the
1124 C cutoff value (50) is reached.
1125 C
1126 IF (INERR.GT.50) GOTO 20
1127 IF (INERR.GT.0) GOTO 10
1128 C
1129 IF (ICYOLD.NE.ICY.OR.IROLD.NE.IREJN.OR.ALTOLD.NE.ALT)
1130 * CALL REGMOD(ICY,INERR)
1131 IF (INERR.GT.50) GOTO 20
1132 IF (INERR.GT.0) GOTO 10
1133 ICYOLD=ICY
1134 IROLD=IREJN
1135 ALTOLD=ALT
1136 C
1137 CALL EFCALX(ICY,INERR)
1138 IF (INERR.GT.50) GOTO 20
1139 IF (INERR.GT.0) GOTO 10
1140 C
1141 CALL OUTPUT(ICY)
1142 GOTO 10
1143 C
1144 20 WRITE(IQUERR,300)
1145 300 FORMAT('O',T2,'Excess data errors prevent further analysis.')
```

1146 C

1147 99 STOP

1148 END


```

2000      SUBROUTINE CONSEC(*)
2001      C
2002      C CONSEC reads in and validates the Control Section flags. It also sets the
2003      C input mode for the run, resets the output units (if requested) and reads in
2004      C and stores the run title.
2005      C
2006      C Called by MAIN.
2007      C
2008      C Calls MOD (FORTRAN library function), OUTHDR and QUITER.
2009      C
2010      C Input on call:
2011      C
2012      C   common blocks:
2013      C   /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
2014      C
2015      C Output on return:
2016      C
2017      C   common blocks:
2018      C   /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
2019      C   /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
2020      C   /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
2021      C   /IOUCOM/ IOUREP,IOUERR,IOUASK
2022      C   /PROJCM/ PROJID
2023      C   /SYSCOM/ INITPR
2024      C
2025      C Local array subscripts:
2026      C
2027      C   IOUCHG(9) - IOUCHG ( JU )
2028      C   IOUOLD(3) - IOUOLD ( JOU )
2029      C   IOUREF(9) - IOUREF ( JU )
2030      C   NAMFLG(13) - NAMFLG ( IFG )
2031      C
2032      C Local variable / array dictionary:
2033      C
2034      C   Name      Type      Description
2035      C   -----
2036      C   FLGERR    I         number of flag values found to be out of range
2037      C   INFORM    I         dummy variable: QUITER call purpose is to write out run
2038      C                   'inform'ation, not an error or a warning message
2039      C   IOUCHG    I         user entered changes to output unit assignments
2040      C   IOUOLD    I         output unit numbers to be used this run
2041      C   IOUREF    I         character representations of i/o unit numbers 1 - 9
2042      C   IOUSUM    I         sum of acceptable changed i/o unit numbers
2043      C   IPRSAV    I         backup of entered IPROMT - used in QUITER if out of range
2044      C   JUNIT     I         potential numeric match to entered character for unit change
2045      C   MDEFLG    I         decides prompt & read format for Control Section flags:
2046      C                   1 = vertical format      2 = horizontal format
2047      C   NAMFLG    R*8      flag names for prompts
2048      C
2049      C Notes:
2050      C
2051      C Major MOBILE3 changes to the control flag processing section are:
2052      C Deleted all code related to flags INFLAG, TRKFLG & UNFFLG.
2053      C Added code to process TAMFLG and ATPFLG (new input option flags).
2054      C Added call to new subroutine GETAER. NEWDAT call is now GETIMC call.
2055      C Removed and replaced IOPTN with ITEST and ICUTS in IMFLAG processing.
2056      C ALTFLG was renamed to NEWFLG and IMFLG to IMFLAG.
2057      C

```



```

2058 C
2059 INTEGER TAMFLG,SPDFLG,VMFLAG,ALHFLG,ATPFLG,PRTFLG
2060 C
2061 COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
2062 COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
2063 COMMON /FLAGS3/ IFORM,PRTFLG,ICEVFG,IDLFLG,NMHFLG
2064 COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
2065 COMMON /PROJCM/ PROJID(20)
2066 COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
2067 C
2068 INTEGER FLGERR
2069 DIMENSION IOUREF(9),IOUOLD(3),IOUCHG(3)
2070 REAL*8 NAMFLG(13)
2071 C
2072 EQUIVALENCE
2073 * (IOUOLD(1),IOUREP), (IOUOLD(2),IOUERR), (IOUOLD(3),IOUASK)
2074 C
2075 DATA FLGERR/0/
2076 DATA IOUREF/
2077 * '1' '2' '3' '4' '5' '6' '7' '8' '9' '/'
2078 C
2079 DATA NAMFLG/' TAMFLG:',
2080 *' SPDFLG:', ' VMFLAG:', ' MYMRFG:', ' NEWFLG:', ' IMFLAG:', ' ALHFLG:',
2081 *' ATPFLG:', ' IFORM:', ' PRTFLG:', ' ICEVFG:', ' IDLFLG:', ' NMHFLG:'
2082 C
2083 C Read in prompt/mode flag and output unit changes (if any).
2084 C
2085 READ(IOUGEN,100,END=99) IPROMT,IOUCHG
2086 100 FORMAT(I1,3A1)
2087 C
2088 C Output unit numbers parsed here.
2089 C
2090 C Change alphanumeric to numeric values.
2091 C
2092 DO 20 J0U=1,3
2093 C
2094 C Test for allowed values (no input units).
2095 C
2096 DO 10 JU=1,9
2097 IF (JU.EQ.IOUAER.OR.JU.EQ.IOUIMD.OR.JU.EQ.IOUGEN) GOTO 10
2098 JUNIT=JU
2099 IF (IOUCHG(JOU).EQ.IOUREF(JU)) GOTO 15
2100 10 CONTINUE
2101 C
2102 C Set default for unrecognized value.
2103 C
2104 JUNIT=0
2105 15 IOUCHG(JOU)=JUNIT
2106 20 CONTINUE
2107 C
2108 C Assign output units.
2109 C
2110 IOUSUM=0
2111 DO 25 J0U=1,3
2112 IOUSUM=IOUCHG(JOU)+IOUSUM
2113 IF (IOUCHG(JOU).GT.0) IOUOLD(JOU)=IOUCHG(JOU)
2114 25 CONTINUE
2115 C

```

```

2116 C Parse prompt/mode flag here.
2117 C
2118 C Save input flag for future possible abort.
2119 C
2120 IPRSAV=IPROMT
2121 IF (IPROMT.GE.1.AND.IPROMT.LE.4) GOTO 30
2122 C
2123 C Abort will happen due to prompt/mode flag error.
2124 C Collect title for id of possible multiple units.
2125 C
2126 IPRMT=1
2127 WRITE (IOUASK,210)
2128 READ (IOUGEN,110,END=99) PROJID
2129 GOTO 60
2130 C
2131 C Parse prompt/mode flag.
2132 C
2133 30 MDEFLG=1
2134 IF (IPROMT.GE.3) MDEFLG=2
2135 IPRMT=MOD (IPROMT-1,2)+1
2136 C
2137 C Read title.
2138 C
2139 55 IF (IPROMT.EQ.2) WRITE (IOUASK,210)
2140 210 FORMAT ('O','Enter project id:')
2141 READ (IOUGEN,110,END=99) PROJID
2142 110 FORMAT (20A4)
2143 C
2144 C If error unit no longer same as report unit, write run title to it.
2145 C
2146 60 IF (IOUREP.NE.IOUERR) CALL OUTHDR (IOUERR)
2147 C
2148 C Display unit number values if changed.
2149 C
2150 IF (IOUSUM.GT.0) CALL QUITER (0.,0,71,INFORM)
2151 IF (IPROMT.EQ.2.AND.IOUASK.NE.IOUREP.AND.IOUASK.NE.IOUERR)
2152 * CALL OUTHDR (IOUASK)
2153 C
2154 C Reset INITPR so that subsequent branch check in OUTPUT will succeed.
2155 C
2156 INITPR=1
2157 C
2158 C Test IPRSAV (= entered IPROMT value). Out-of-range => run stops.
2159 C
2160 IF (IPRSAV.LT.1.OR.IPRSAV.GT.4) CALL QUITER (0.,IPRSAV,2,FLGERR)
2161 C
2162 IF (MDEFLG.EQ.2) GOTO 65
2163 C
2164 C Read flags via vertical input mode.
2165 C
2166 IF (IPROMT.EQ.2) WRITE (IOUASK,220) NAMFLG (1)
2167 READ (IOUGEN,120,END=99) TAMFLG
2168 IF (TAMFLG.LT.1.OR.TAMFLG.GT.2) CALL QUITER (0.,TAMFLG,3,FLGERR)
2169 IF (IPROMT.EQ.2) WRITE (IOUASK,220) NAMFLG (2)
2170 READ (IOUGEN,120,END=99) SPDFLG
2171 IF (SPDFLG.LT.1.OR.SPDFLG.GT.2) CALL QUITER (0.,SPDFLG,4,FLGERR)
2172 IF (IPROMT.EQ.2) WRITE (IOUASK,220) NAMFLG (3)
2173 READ (IOUGEN,120,END=99) VMFLAG

```

```

2174 IF (VMFLAG.LT.1.OR.VMFLAG.GT.3) CALL QUITER (0.,VMFLAG,5,FLGERR)
2175 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (4)
2176 READ (IOUGEN,120,END=99) MYMRFG
2177 IF (MYMRFG.LT.1.OR.MYMRFG.GT.4) CALL QUITER (0.,MYMRFG,6,FLGERR)
2178 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (5)
2179 READ (IOUGEN,120,END=99) NEWFLG
2180 IF (NEWFLG.LT.1.OR.NEWFLG.GT.2) CALL QUITER (0.,NEWFLG,7,FLGERR)
2181 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (6)
2182 READ (IOUGEN,120,END=99) IMFLAG
2183 IF (IMFLAG.LT.1.OR.IMFLAG.GT.2) CALL QUITER (0.,IMFLAG,8,FLGERR)
2184 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (7)
2185 READ (IOUGEN,120,END=99) ALHFLG
2186 IF (ALHFLG.LT.1.OR.ALHFLG.GT.3) CALL QUITER (0.,ALHFLG,9,FLGERR)
2187 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (8)
2188 READ (IOUGEN,120,END=99) ATPFLG
2189 IF (ATPFLG.LT.1.OR.ATPFLG.GT.2) CALL QUITER (0.,ATPFLG,10,FLGERR)
2190 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (9)
2191 READ (IOUGEN,120,END=99) IFORM
2192 IF (IFORM.LT.1.OR.IFORM.GT.4) CALL QUITER (0.,IFORM,11,FLGERR)
2193 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (10)
2194 READ (IOUGEN,120,END=99) PRTFLG
2195 IF (PRTFLG.LT.1.OR.PRTFLG.GT.4) CALL QUITER (0.,PRTFLG,12,FLGERR)
2196 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (11)
2197 READ (IOUGEN,120,END=99) ICEVFG
2198 IF (ICEVFG.LT.1.OR.ICEVFG.GT.4) CALL QUITER (0.,ICEVFG,13,FLGERR)
2199 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (12)
2200 READ (IOUGEN,120,END=99) IDLFLG
2201 IF (IDLFLG.LT.1.OR.IDLFLG.GT.2) CALL QUITER (0.,IDLFLG,14,FLGERR)
2202 IF (IPROMT.EQ.2) WRITE (IOUASK,220)NAMFLG (13)
2203 READ (IOUGEN,120,END=99) NMHFLG
2204 IF (NMHFLG.LT.1.OR.NMHFLG.GT.2) CALL QUITER (0.,NMHFLG,15,FLGERR)
2205 C
2206 120 FORMAT (11)
2207 220 FORMAT (' ','Enter',A8)
2208 C
2209 GOTO 70
2210 C
2211 C Read flags in via horizontal mode.
2212 C
2213 65 IF (IPROMT.EQ.2) WRITE (IOUASK,230)
2214 230 FORMAT (' ','Enter TAMFLG, SPDFLG, VMFLAG, MYMRFG, NEWFLG, IMFLAG,
2215 *, ' ALHFLG, '/' ' , 'ATPFLG, IFORM, PRTFLG, ICEVFG, IDLFLG & NMHFLG')
2216 READ (IOUGEN,130,END=99) TAMFLG,SPDFLG,VMFLAG,MYMRFG,NEWFLG,
2217 * IMFLAG,ALHFLG,ATPFLG,IFORM,PRTFLG,ICEVFG,IDLFLG,NMHFLG
2218 130 FORMAT (11,12 (1X,11))
2219 IF (TAMFLG.LT.1.OR.TAMFLG.GT.2) CALL QUITER (0.,TAMFLG,3,FLGERR)
2220 IF (SPDFLG.LT.1.OR.SPDFLG.GT.2) CALL QUITER (0.,SPDFLG,4,FLGERR)
2221 IF (VMFLAG.LT.1.OR.VMFLAG.GT.3) CALL QUITER (0.,VMFLAG,5,FLGERR)
2222 IF (MYMRFG.LT.1.OR.MYMRFG.GT.4) CALL QUITER (0.,MYMRFG,6,FLGERR)
2223 IF (NEWFLG.LT.1.OR.NEWFLG.GT.2) CALL QUITER (0.,NEWFLG,7,FLGERR)
2224 IF (IMFLAG.LT.1.OR.IMFLAG.GT.2) CALL QUITER (0.,IMFLAG,8,FLGERR)
2225 IF (ALHFLG.LT.1.OR.ALHFLG.GT.3) CALL QUITER (0.,ALHFLG,9,FLGERR)
2226 IF (ATPFLG.LT.1.OR.ATPFLG.GT.2) CALL QUITER (0.,ATPFLG,10,FLGERR)
2227 IF (IFORM.LT.1.OR.IFORM.GT.4) CALL QUITER (0.,IFORM,11,FLGERR)
2228 IF (PRTFLG.LT.1.OR.PRTFLG.GT.4) CALL QUITER (0.,PRTFLG,12,FLGERR)
2229 IF (ICEVFG.LT.1.OR.ICEVFG.GT.4) CALL QUITER (0.,ICEVFG,13,FLGERR)
2230 IF (IDLFLG.LT.1.OR.IDLFLG.GT.2) CALL QUITER (0.,IDLFLG,14,FLGERR)
2231 IF (NMHFLG.LT.1.OR.NMHFLG.GT.2) CALL QUITER (0.,NMHFLG,15,FLGERR)

```

Appendix C: MOBILE3 Subroutine CONSEC

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```
2232 C
2233 C 1 or more flag values out of range => warn user & then stop run.
2234 C
2235 70 IF (FLGERR.GT.0) CALL QUITER(0.,0,53,FLGERR)
2236 RETURN
2237 C
2238 C EOF on any attempted read => take alternate return 1 => run aborts.
2239 C
2240 99 RETURN1
2241 END
```



```

3000      SUBROUTINE ONESEC(INERR,*)
3001      C
3002      C ONESEC checks if control flags indicate One-time Data. It then reads in,
3003      C validates, and stores the data.
3004      C
3005      C Called by MAIN.
3006      C
3007      C Calls CCEVAX, GETATP, GETIMC, GETVMT, NEWERQ, QUITER and YRTEST.
3008      C
3009      C Input on call:
3010      C
3011      C     parameter list: INERR
3012      C     common blocks:
3013      C     /FLAGS1/ IPROMT,TAMFLG,VMFLAG
3014      C     /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ATPFLG
3015      C     /FLAGS3/ ICEVFG
3016      C     /IOUCOM/ IOUGEN,IOUASK
3017      C     /SYSCOM/ MAXVEH
3018      C     /YEARS4/ IY1941,IY1960,IY2020
3019      C
3020      C Output on return:
3021      C
3022      C     parameter list: INERR
3023      C     common blocks:
3024      C     /BASETR/ ZMLTAM,DRTAM
3025      C     /CEVCOM/ USRTPD,USRMPD
3026      C     /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
3027      C     /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME
3028      C     /MYRSV/ AMAR,JULMYR
3029      C     /NEWCOM/ NEWPAR,BERNEW,NEWFIT,NEWCT
3030      C
3031      C Local array subscripts:
3032      C
3033      C NAMMMR(2,2,8) - NAMMMR ( ICH, IG, IV )
3034      C
3035      C Local variable / array dictionary:
3036      C
3037      C      Name      Type      Description
3038      C      -----
3039      C CHKMYR      R      myr mix check: sum of the myr fractions = 1.0 +/- 1.E-6
3040      C                      (a normalized myr distribution has been entered for each IV)
3041      C DRNEW       R      new emission rate's deterioration rate (slope)
3042      C MYF         I      my of first (JDX order) AMAR / JULMYR to be entered on READ
3043      C MYL         I      my of last (JDX order) AMAR / JULMYR to be entered on READ
3044      C NAMMMR      R*8     prompts for replacement AMAR & JULMYR, by JDX & IV
3045      C NEWMYF      I      new emission rate's first my of affected range
3046      C NEWMYL      I      new emission rate's last my of affected range
3047      C NEWPOL      I      new emission rate's pollutant code
3048      C NEWREG      I      new emission rate's region code
3049      C NEWVEH      I      new emission rate's vehicle type code
3050      C SUMMYR      R      sum of myr for IV; used to normalize user entered JULMYR
3051      C ZEROML      R      user entered tampering zml to be checked: ZEROML <= 1.0
3052      C ZMLNEW      R      new emission rate's zero mile level (intercept)
3053      C
3054      C
3055      C
3056      C     INTEGER TAMFLG,SPDFLG,VMFLAG,ALHFLG,ATPFLG,PRTFLG
3057      C     REAL JULMYR

```

```

3058      C
3059      COMMON /BASETR/ BTR(7,2),ZMLTAM(7,2,4),DRTAM(7,2,4)
3060      COMMON /CEVCOM/ USRTPD(8),USRMPD(8)
3061      COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
3062      COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
3063      COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
3064      COMMON /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
3065      COMMON /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME(20,9)
3066      COMMON /IOUCOM/ IOUAE,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
3067      COMMON /MYRSV/ AMAR(20,8),JULMYR(20,8),NEWCUM
3068      COMMON /NEWCOM/ NEWPAR(5,100),BERNEW(2,100),NEWFIT(100),NEWCT
3069      COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
3070      COMMON /YEARS4/ IY1941,IY1960,IY2020
3071      C
3072      REAL*8 NAMMMR(2,2,8)
3073      C
3074      DATA NAMMMR/
3075      * '1-10 for',' LDGV: ',
3076      * '11-20 fo','r LDGV: ',
3077      * '1-10 for',' LDGT1: ',
3078      * '11-20 fo','r LDGT1: ',
3079      * '1-10 for',' LDGT2: ',
3080      * '11-20 fo','r LDGT2: ',
3081      * '1-10 for',' HDGV: ',
3082      * '11-20 fo','r HDGV: ',
3083      * '1-10 for',' LDDV: ',
3084      * '11-20 fo','r LDDV: ',
3085      * '1-10 for',' LDDT: ',
3086      * '11-20 fo','r LDDT: ',
3087      * '1-10 for',' HDDV: ',
3088      * '11-20 fo','r HDDV: ',
3089      * '1-10 for',' MC: ',
3090      * '11-20 fo','r MC: '/
3091      C
3092      C Process flags.
3093      C
3094      IF (TAMFLG.EQ.1) GOTO 20
3095      IF (IMFLAG.EQ.2) GOTO 10
3096      C
3097      IF (IPROMT.EQ.2) WRITE (IOUASK,200)
3098      200 FORMAT(' ','Enter tampering intercepts (zero mile levels)')
3099      IF (IPROMT.EQ.2) WRITE (IOUASK,205)
3100      205 FORMAT(' ','for non-1/M case only:')
3101      READ (IOUGEN,100,END=99) ((ZMLTAM(ID,1,IVTAM),ID=1,7),IVTAM=1,4)
3102      100 FORMAT(7F8.4)
3103      IF (IPROMT.EQ.2) WRITE (IOUASK,210)
3104      210 FORMAT(' ','Enter tampering slopes (deterioration rates)')
3105      IF (IPROMT.EQ.2) WRITE (IOUASK,205)
3106      READ (IOUGEN,110,END=99) ((DRTAM(ID,1,IVTAM),ID=1,7),IVTAM=1,4)
3107      110 FORMAT(7F9.5)
3108      GOTO 12
3109      C
3110      10 IF (IPROMT.EQ.2) WRITE (IOUASK,200)
3111      IF (IPROMT.EQ.2) WRITE (IOUASK,215)
3112      215 FORMAT(' ','for non-1/M and 1/M cases:')
3113      READ (IOUGEN,100,END=99) ZMLTAM
3114      IF (IPROMT.EQ.2) WRITE (IOUASK,210)
3115      IF (IPROMT.EQ.2) WRITE (IOUASK,215)

```

```

3116      READ(10UGEN,110,END=99) DRTAM
3117      C
3118      C Insure tampering zero mile levels (intercepts) do not exceed unity.
3119      C There is no range check for deterioration rates.
3120      C
3121      12 DO 14 IVTAM=1,4
3122          DO 14 IM=1,IMFLAG
3123          DO 14 ID=1,7
3124          ZEROML=ZMLTAM(ID,IM,IVTAM)
3125          IF (ZEROML.GT.1.0) CALL QUITER(ZEROML,0,50,INERR)
3126      14 CONTINUE
3127      C
3128      C Check for user supplied vmt mix to be used for all scenarios of this run.
3129      C
3130      20 IF (VMFLAG.EQ.3) CALL GETVMT(INERR,&99)
3131      C
3132      C Check for user supplied my mileage accrual rates and / or registration
3133      C distributions.
3134      C
3135          IF (MYMRFG.EQ.1) GOTO 44
3136          IF (MYMRFG.EQ.3) GOTO 26
3137          IF (IPROMT.EQ.2) WRITE(10UASK,220)
3138      220 FORMAT(/)
3139      C
3140          DO 22 IV=1,MAXVEH
3141          DO 22 IG=1,2
3142          IF (IPROMT.EQ.2) WRITE(10UASK,230) (NAMMMR(ICH,IG,IV),ICH=1,2)
3143      230 FORMAT(' ','Enter MYM ages ',2A8)
3144          MYF=1
3145          IF (IG.EQ.2) MYF=11
3146          MYL=10
3147          IF (IG.EQ.2) MYL=20
3148          READ(10UGEN,130,END=99) (AMAR(JDX,IV),JDX=MYF,MYL)
3149      130 FORMAT(10F5.3)
3150      22 CONTINUE
3151      C
3152          DO 24 IV=1,MAXVEH
3153          DO 24 JDX=1,20
3154          IF (AMAR(JDX,IV).LT.0.) CALL QUITER(AMAR(JDX,IV),0,19,INERR)
3155      24 CONTINUE
3156      C
3157          IF (MYMRFG.EQ.2) GOTO 36
3158      26 IF (IPROMT.EQ.2) WRITE(10UASK,220)
3159          DO 32 IV=1,MAXVEH
3160          DO 28 IG=1,2
3161          IF (IPROMT.EQ.2) WRITE(10UASK,235) (NAMMMR(ICH,IG,IV),ICH=1,2)
3162      235 FORMAT(' ','Enter MYR ages ',2A8)
3163          MYF=1
3164          IF (IG.EQ.2) MYF=11
3165          MYL=10
3166          IF (IG.EQ.2) MYL=20
3167          READ(10UGEN,130,END=99) (JULMYR(JDX,IV),JDX=MYF,MYL)
3168      28 CONTINUE
3169      C
3170          CHKMYR=0.0
3171          DO 30 JDX=1,20
3172          CHKMYR=JULMYR(JDX,IV)+CHKMYR
3173      30 CONTINUE

```



```

3174 C
3175     IF (CHKMYR-.00001.GT.1..OR.CHKMYR+.00001.LT.1.)
3176     * CALL QUITER (CHKMYR,0,49,INERR)
3177     32 CONTINUE
3178 C
3179     DO 34 IV=1,MAXVEH
3180     DO 34 JDX=1,20
3181     IF (JULMYR (JDX,IV) .LT.0.) CALL QUITER (JULMYR (JDX,IV) ,0,20,INERR)
3182     34 CONTINUE
3183 C
3184 C
3185     36 DO 38 IV=1,MAXVEH
3186 C
3187 C Skip 0 with non-0 checks if user supplies MYR only and on HDDV pass:
3188 C the BD values are 0.0's for all 20 my's (HDDMYM has not yet been called).
3189 C
3190     IF (MYMRFG.EQ.3.AND.IV.EQ.7) GOTO 38
3191     DO 38 JDX=1,20
3192     IF (AMAR (JDX,IV) .LE.0.0.AND.JULMYR (JDX,IV) .GT.0.0)
3193     * CALL QUITER (JULMYR (JDX,IV) ,0,21,INERR)
3194     IF (AMAR (JDX,IV) .GT.0.0.AND.JULMYR (JDX,IV) .EQ.0.0)
3195     * CALL QUITER (AMAR (JDX,IV) ,0,22,INERR)
3196     38 CONTINUE
3197 C
3198 C Check vehicle equalities (LDGV,LDDV), (LDGT1,LDDT) mod yr regs.
3199 C
3200     DO 40 JDX=1,20
3201     IF (JULMYR (JDX,1) .NE.JULMYR (JDX,5)) CALL QUITER (0.,JDX,65,INERR)
3202     IF (JULMYR (JDX,2) .NE.JULMYR (JDX,6)) CALL QUITER (0.,JDX,66,INERR)
3203     40 CONTINUE
3204 C
3205 C Normalize JULMYR.
3206 C
3207     44 DO 50 IV=1,MAXVEH
3208 C
3209     SUMMYR=0.0
3210     DO 46 JDX=1,20
3211     SUMMYR=JULMYR (JDX,IV)+SUMMYR
3212     46 CONTINUE
3213     IF (SUMMYR.EQ.0.) SUMMYR=1.
3214 C
3215     DO 50 JDX=1,20
3216     JULMYR (JDX,IV) =JULMYR (JDX,IV) /SUMMYR
3217     50 CONTINUE
3218 C
3219 C Here read in e.f. modification data.
3220 C
3221     IF (NEWFLG.EQ.1) GOTO 60
3222     IF (IPROMT.EQ.2) WRITE (IOUASK,240)
3223     240 FORMAT ('O','Enter no. of new e.f. intercept/slope pairs (12)')
3224     READ (IOUGEN,140,END=99) NEWCT
3225     140 FORMAT (12)
3226     IF (NEWCT.LT.1.OR.NEWCT.GT.100) CALL QUITER (0.,NEWCT,23,INERR)
3227 C
3228     DO 55 IFAC=1,NEWCT
3229     IF (IPROMT.EQ.2) WRITE (IOUASK,250)
3230     250 FORMAT (' ','Enter region,veh. type,pollutant,first my,')
3231     * ' ','last my,new intercept (A), and new slope (B)')

```



```

3232      READ(10UGEN,150,END=99) NEWREG,NEWVEH,NEWPOL,
3233      * NEWMYF,NEWMYL,ZMLNEW,DRNEW
3234 150  FORMAT(11,1X,11,1X,11,1X,12,1X,12,1X,F6.2,1X,F6.2)
3235      IF(NEWREG.NE.1.AND.NEWREG.NE.2)
3236      * CALL QUITER(0.,NEWREG,62,INERR)
3237      IF(NEWVEH.LT.1.OR.NEWVEH.GT.8) CALL QUITER(0.,NEWVEH,25,INERR)
3238      IF(NEWPOL.LT.1.OR.NEWPOL.GT.3) CALL QUITER(0.,NEWPOL,26,INERR)
3239      CALL YRTEST(NEWMYF,27,1Y1941,1Y2020,INERR)
3240      CALL YRTEST(NEWMYL,28,1Y1941,1Y2020,INERR)
3241      IF(NEWMYL.LT.NEWMYF) CALL QUITER(0.,0,29,INERR)
3242      IF(ZMLNEW.LE.0.) CALL QUITER(ZMLNEW,0,30,INERR)
3243      IF(DRNEW.LT.0.) CALL QUITER(DRNEW,0,31,INERR)
3244  C
3245  C   Store alternate equation data.
3246  C
3247      NEWPAR(1,IFAC)=NEWREG
3248      NEWPAR(2,IFAC)=NEWVEH
3249      NEWPAR(3,IFAC)=NEWPOL
3250      NEWPAR(4,IFAC)=NEWMYF
3251      NEWPAR(5,IFAC)=NEWMYL
3252      BERNEW(1,IFAC)=ZMLNEW
3253      BERNEW(2,IFAC)=DRNEW
3254 55  CONTINUE
3255      CALL NEWERQ(INERR)
3256  C
3257  C   If IMFLAG=2, read in I/M program parameters.
3258  C
3259      60 IF(IMFLAG.EQ.1) GOTO 70
3260      NLIM=0
3261      IF(IPROMT.EQ.2) WRITE(10UASK,260)
3262 260  FORMAT('0','Enter year I/M begins, stringency, m.t. flag,/'
3263      * ' ','first model year and last model year of prog. benefits,/'
3264      * ' ','vehicle, test type, cutpoints and newdata flags')
3265      READ(10UGEN,160,END=99)
3266      * ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2,ILDT,ITEST,ICUTS,NUDATA
3267 160  FORMAT(2(12,1X),11,1X,2(12,1X),3(11,1X),11)
3268  C
3269  C   Check I/M inputs.
3270  C
3271      CALL YRTEST(ICYIM,32,1Y1960,1Y2020,INERR)
3272      IF(ISTRIN.LT.10.OR.ISTRIN.GT.50) CALL QUITER(0.,ISTRIN,33,INERR)
3273      IF(IMTFLG.LT.1.OR.IMTFLG.GT.2) CALL QUITER(0.,IMTFLG,34,INERR)
3274      CALL YRTEST(MODYR1,35,1Y1941,1Y2020,INERR)
3275      CALL YRTEST(MODYR2,36,1Y1941,1Y2020,INERR)
3276      IF(MODYR1.GT.MODYR2) CALL QUITER(0.,0,37,INERR)
3277      IF(ILDT.LT.1.OR.ILDT.GT.4) CALL QUITER(0.,ILDT,72,INERR)
3278      IF(ITEST.LT.1.OR.ITEST.GT.3) CALL QUITER(0.,ITEST,73,INERR)
3279      IF(ICUTS.LT.1.OR.ICUTS.GT.3) CALL QUITER(0.,ICUTS,82,INERR)
3280      IF(NUDATA.LT.1.OR.NUDATA.GT.4) CALL QUITER(0.,NUDATA,74,INERR)
3281      IF(NUDATA.GT.1) CALL GETIMC(&99)
3282  C
3283  C   Anti-tampering program => get parameters and effectiveness rates.
3284  C
3285      70 IF(ATPFLG.EQ.2) CALL GETATP(INERR,&99)
3286  C
3287      IF(ICEVFG.LT.3) GOTO 90
3288  C
3289  C   Read trips/day and miles/day.

```

Appendix C: MOBILE3 Subroutine ONESEC

June 7, 1984

```

3290      C
3291      IF (IPROMT.EQ.2) WRITE (IOUASK,270)
3292      270 FORMAT('O','Enter average trips/day')
3293      READ (IOUGEN,170,END=99) USRTPD
3294      170 FORMAT(8F5.1)
3295      C
3296      DO 80 IV=1,MAXVEH
3297      IF (USRTPD(IV).LT.0.) CALL QUITER(USRTPD(IV),0,54,INERR)
3298      80 CONTINUE
3299      C
3300      IF (IPROMT.EQ.2) WRITE (IOUASK,280)
3301      280 FORMAT('O','Enter average miles/day')
3302      READ (IOUGEN,170,END=99) USRMPD
3303      C
3304      DO 85 IV=1,MAXVEH
3305      IF (USRMPD(IV).LT.0.) CALL QUITER(USRMPD(IV),0,55,INERR)
3306      85 CONTINUE
3307      CALL CCEVAX
3308      90 RETURN
3309      C
3310      C EOF on any attempted read => take alternate return 1 => run aborts.
3311      C
3312      99 RETURN1
3313      END

```

```

4000      SUBROUTINE PARSEC(ICY,INERR,*)
4001      C
4002      C PARSEC reads in the Parameter Section variables and validates them.
4003      C
4004      C Called by MAIN.
4005      C
4006      C Calls FLOAT, GETVMT, IFIX, QUITER and YRTEST. FLOAT & IFIX are FORTRAN
4007      C library functions.
4008      C
4009      C Input on call:
4010      C
4011      C     parameter list: INERR
4012      C     common blocks:
4013      C     /FLAGS1/ IPROMT,SPDFLG,VMFLAG
4014      C     /FLAGS2/ ALHFLG
4015      C     /IOUCOM/ IOUGEN,IOUASK
4016      C     /SYSCOM/ MAXVEH,MAXLTW
4017      C     /YEARS4/ IY1960,IY2020
4018      C
4019      C Output on return:
4020      C
4021      C     parameter list: ICY,INERR
4022      C     common blocks:
4023      C     /LNKCOM/ SPD,AMBT,PCCN,PCHC,PCCC
4024      C     /REGCOM/ IREJN,ALT
4025      C     /XCFS1/ AC,XLOAD,TRAILR,ABSHUM,DB,WB
4026      C
4027      C Local variable dictionary:
4028      C
4029      C      Name      Type      Description
4030      C      -----
4031      C      NSPDS      I      number of speeds entered by user for current scenario:
4032      C                      SPDFLG = 1 => NSPDS = 1; SPDFLG = 2 => NSPDS = 8
4033      C      OPCHK1      R      operating modes check 1: 0.0 <= PCHC + PCCC <= 100.
4034      C      OPCHK2      R      operating modes check 2: 0.0 <= PCHC + PCCC - PCCN <= 100.
4035      C
4036      C
4037      C      INTEGER TAMFLG,SPDFLG,VMFLAG,ALHFLG,ATPFLG
4038      C
4039      C      COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
4040      C      COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
4041      C      COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
4042      C      COMMON /LNKCOM/ SPD(8),AMBT,PCCN,PCHC,PCCC
4043      C      COMMON /REGCOM/ IREJN,ALT
4044      C      COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
4045      C      COMMON /XCFS1/ AC,XLOAD(3),TRAILR(3),ABSHUM,DB,WB
4046      C      COMMON /YEARS4/ IY1941,IY1960,IY2020
4047      C
4048      C PARSEC is called once for each scenario of the run.
4049      C
4050      C Get scenario record.
4051      C
4052      C      IF (SPDFLG.EQ.2) GOTO 20
4053      C      NSPDS=1
4054      C      IF (IPROMT.EQ.2) WRITE (IOUASK,200)
4055      C      200 FORMAT('O','Enter region, CY,SPD(1),AMBT,PCCN,PCHC,PCCC: ')
4056      C      READ (IOUGEN,100,END=99) IREJN,ICY,SPD(1),AMBT,PCCN,PCHC,PCCC
4057      C      100 FORMAT(11,1X,12,5(1X,F4.1))

```

```

4058 C
4059     DO 10 IV=2,MAXVEH
4060     SPD(IV)=SPD(1)
4061     10 CONTINUE
4062     GOTO 30
4063 C
4064     20 NSPDS=MAXVEH
4065     IF (IPROMT.EQ.2) WRITE(10UASK,220)
4066     220 FORMAT('O','Enter region, CY,SPD(8),AMBT,PCCN,PCHC,PCCC: ')
4067     READ(10UGEN,120,END=99) IREJN,ICY,SPD,AMBT,PCCN,PCHC,PCCC
4068     120 FORMAT(11,1X,12,12(1X,F4.1))
4069 C
4070     30 IF (IREJN.EQ.3.AND.IPROMT.EQ.2) WRITE(10UASK,230)
4071     230 FORMAT('O','Enter altitude:')
4072     IF (IREJN.EQ.3) READ(10UGEN,130,END=99) ALT
4073     130 FORMAT(F6.0)
4074 C
4075 C   Validate inputs.
4076 C
4077     IF (IREJN.LT.1.OR.IREJN.GT.3) CALL QUITER(0.,IREJN,24,INERR)
4078 C
4079 C   ICY read in as last 2 digits of calendar year. Call YRTEST to both
4080 C   convert the value to a 4 digit year and validate the result is in-range.
4081 C
4082     CALL YRTEST(ICY,38,IY1960,IY2020,INERR)
4083 C
4084 C   Check input speed(s).
4085 C
4086     DO 40 IV=1,NSPDS
4087     IF (SPD(IV).LE.0.) CALL QUITER(SPD(IV),0,39,INERR)
4088     IF (SPD(IV).LT.5.) CALL QUITER(SPD(IV),0,52,INERR)
4089     IF (SPD(IV).GT.0.0.AND.SPD(IV).LT.5.) SPD(IV)=5.
4090     IF (SPD(IV).GT.55.) CALL QUITER(SPD(IV),0,16,INERR)
4091     IF (SPD(IV).GT.55.) SPD(IV)=55.
4092     40 CONTINUE
4093 C
4094     AMBT=FLOAT(IFIX(AMBT+.5))
4095     IF (AMBT.LT.0..OR.AMBT.GT.110.) CALL QUITER(AMBT,0,40,INERR)
4096     IF (PCCN.LT.0..OR.PCCN.GT.100.) CALL QUITER(PCCN,0,41,INERR)
4097     IF (PCHC.LT.0..OR.PCHC.GT.100.) CALL QUITER(PCHC,0,42,INERR)
4098     IF (PCCC.LT.0..OR.PCCC.GT.100.) CALL QUITER(PCCC,0,43,INERR)
4099     OPCHK1=PCHC+PCCC
4100     IF (OPCHK1.LT.0..OR.OPCHK1.GT.100.) CALL QUITER(OPCHK1,0,63,INERR)
4101     OPCHK2=OPCHK1-PCCN
4102     IF (OPCHK2.LT.0..OR.OPCHK2.GT.100.) CALL QUITER(OPCHK2,0,64,INERR)
4103 C
4104 C   Set default altitude (treat region 3 as region 1 when done).
4105 C
4106     IF (IREJN.EQ.1) ALT=500.
4107     IF (IREJN.EQ.2) ALT=5500.
4108     IF (ALT.LT.-200..OR.ALT.GT.10000.) CALL QUITER(ALT,0,58,INERR)
4109 C
4110 C   Check for user supplied vmt mix to be used for this scenario only.
4111 C
4112     IF (VMFLAG.EQ.2) CALL GETVMT(INERR,&99)
4113 C
4114 C   Here read in ALUH parameters.
4115 C   Assign db/wb default temperatures for a/c usage (90% for defaults).

```



```

4116 C
4117 DB=85.
4118 WB=75.
4119 IF (ALHFLG.EQ.1) GOTO 90
4120 IF (ALHFLG.EQ.3) GOTO 60
4121 C
4122 IF (IPROMT.EQ.2) WRITE (IOUASK,240)
4123 240 FORMAT ('O','Enter AC,XLOAD (3),TRAILR (1),ABSHUM')
4124 READ (IOUGEN,140,END=99) AC,XLOAD,TRAILR (1),ABSHUM
4125 140 FORMAT (6F4.3)
4126 C
4127 DO 50 IVP=2,MAXLTW
4128 TRAILR (IVP)=TRAILR (1)
4129 50 CONTINUE
4130 GOTO 70
4131 C
4132 60 IF (IPROMT.EQ.2) WRITE (IOUASK,250)
4133 250 FORMAT ('O','Enter AC,XLOAD (3),TRAILR (3),ABSHUM,DBTEMP,WBTEMP')
4134 READ (IOUGEN,150,END=99) AC,XLOAD,TRAILR,ABSHUM,DB,WB
4135 150 FORMAT (8F4.3,2F4.1)
4136 C
4137 C Validate inputs for ALUH.
4138 C
4139 70 IF (AC.LT.0..OR.AC.GT.1.) CALL QUITER (AC,0,44,INERR)
4140 IF (AC.GT.0.) CALL QUITER (0.,0,56,INERR)
4141 C
4142 DO 80 IVP=1,MAXLTW
4143 IF (XLOAD (IVP).LT.0.O.OR.XLOAD (IVP).GT.1.)
4144 * CALL QUITER (XLOAD (IVP),0,45,INERR)
4145 IF (TRAILR (IVP).LT.0.O.OR.TRAILR (IVP).GT.1.)
4146 * CALL QUITER (TRAILR (IVP),0,46,INERR)
4147 80 CONTINUE
4148 C
4149 IF (ABSHUM.LT.20..OR.ABSHUM.GT.140.) CALL QUITER (ABSHUM,0,47,INERR)
4150 C
4151 IF (DB.LT.0..OR.DB.GT.110.) CALL QUITER (DB,0,40,INERR)
4152 IF (WB.LT.0..OR.WB.GT.110.) CALL QUITER (WB,0,40,INERR)
4153 IF (WB.GT.DB) CALL QUITER (0.,0,57,INERR)
4154 90 RETURN
4155 C
4156 C EOF on any attempted read => take alternate return 1 => run aborts.
4157 C
4158 99 RETURN
4159 END

```

```

5000      SUBROUTINE GETVMT(INERR,*)
5001      C
5002      C GETVMT gets the fleet vehicle miles travelled (vmt) mix by vehicle type.
5003      C
5004      C Called by ONESEC and PARSEC.
5005      C
5006      C Calls QUITER.
5007      C
5008      C Input on call:
5009      C
5010      C   parameter list: INERR
5011      C   common blocks:
5012      C   /FLAGS1/ IPROMT
5013      C   /IOUCOM/ IOUGEN,IOUASK
5014      C   /SYSCOM/ MAXVEH
5015      C
5016      C Output on return:
5017      C
5018      C   common block: /VMXCOM/ VMTMIX
5019      C
5020      C Local variable / array dictionary:
5021      C
5022      C   Name      Type      Description
5023      C   -----
5024      C VMTCHK      R      vmt mix check: sum of the vmt fractions = 1.0 +/- 1.E-6
5025      C                      (i.e., a normalized vmt distribution has been entered)
5026      C
5027      C Notes:
5028      C
5029      C GETVMT is a new subprogram (added for MOBILE3).
5030      C
5031      C
5032      C   INTEGER TAMFLG,SPDFLG,VMFLAG
5033      C
5034      C   COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
5035      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
5036      C   COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
5037      C   COMMON /VMXCOM/ VMTMIX(8)
5038      C
5039      C   IF(IPROMT.EQ.2) WRITE(IOUASK,200)
5040      200 FORMAT('O','Enter VMT split:')
5041      READ(IOUGEN,100,END=99) VMTMIX
5042      100 FORMAT(8F4.3)
5043      C
5044      C   VMTCHK=0.0
5045      C   DO 10 IV=1,MAXVEH
5046      C   VMTCHK=VMTMIX(IV)+VMTCHK
5047      C   IF(VMTMIX(IV).LT.0.0.OR.VMTMIX(IV).GT.1.)
5048      C   * CALL QUITER(VMTMIX(IV),0,17,INERR)
5049      10 CONTINUE
5050      C   IF(VMTCHK+1.E-6.LT.1..OR.VMTCHK-1.E-6.GT.1.)
5051      C   * CALL QUITER(VMTCHK,0,18,INERR)
5052      C
5053      C   RETURN
5054      C
5055      C EOF on any attempted read => take alternate return 1 => run aborts.
5056      C
5057      99 RETURN

```

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5058

END

Appendix C: MOBILE3 Subroutine YRTEST

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```

6000      SUBROUTINE YRTEST(IY,NERR,IY1,IY2,INERR)
6001      C
6002      C  YRTEST converts 2-digit input year to 4-digit year.
6003      C
6004      C  Called by GETATP, ONESEC and PARSEC.
6005      C
6006      C  Calls QUITER.
6007      C
6008      C  Input on call:
6009      C
6010      C      parameter list: IY,NERR,IY1,IY2,INERR
6011      C
6012      C  Output on return:
6013      C
6014      C      parameter list: IY,INERR
6015      C
6016      C  Local variable dictionary:
6017      C
6018      C      Name      Type      Description
6019      C      -----
6020      C      II         I      IY converted to 4 digit year
6021      C
6022      C
6023      C      II=IY+1900
6024      C      IF (IY.LT.50) II=IY+2000
6025      C      IF (IY.LT.0.OR.II.LT.IY1.OR.II.GT.IY2)
6026      C      * CALL QUITER(0.,IY,NERR,INERR)
6027      C      IY=II
6028      C      RETURN
6029      C      END

```



```

7000      SUBROUTINE NEWERQ(INERR)
7001      C
7002      C NEWERQ attempts to store the user-supplied specifications for new FTP basic
7003      C emission rate equations and when successful (i.e., when room found in the
7004      C rate arrays), zeroes out all idle coefficients for the specified pollutant,
7005      C vehicle and region combination.
7006      C
7007      C Called by ONESEC.
7008      C
7009      C Calls IERPTR and QUITER.
7010      C
7011      C Input on call:
7012      C
7013      C     parameter list: INERR
7014      C     common blocks:
7015      C     /NEWCOM/ NEWPAR,BERNEW,NEWCT
7016      C     /NEWQU/ MAXEQU
7017      C
7018      C Output on return:
7019      C
7020      C     parameter list: INERR
7021      C     common blocks:
7022      C     /BEFCMD/ DRBEF
7023      C     /BEFCMZ/ ZMLBEF
7024      C     /ERQCOM/ MYGERQ
7025      C     /IDLCMD/ DRIDL
7026      C     /IDLCMZ/ ZMLIDL
7027      C     /NEWCOM/ NEWFIT
7028      C
7029      C Notes:
7030      C
7031      C The dimensions of the emission rate equation arrays MYGERQ, ZMLBEF, DRBEF,
7032      C ZMLIDL, and DRIDL were raised from 15 to 20 to allow the new MAXEQU = 20.
7033      C
7034      C
7035      COMMON /BEFCMD/ DRBEF(20,3,8,2)
7036      COMMON /BEFCMZ/ ZMLBEF(20,3,8,2)
7037      COMMON /ERQCOM/ MYGERQ(20,2,3,8,2)
7038      COMMON /IDLCMD/ DRIDL(20,3,8,2)
7039      COMMON /IDLCMZ/ ZMLIDL(20,3,8,2)
7040      COMMON /NEWCOM/ NEWPAR(5,100),BERNEW(2,100),NEWFIT(100),NEWCT
7041      COMMON /NEWQU/ MAXEQU
7042      C
7043      DO 30 IFAC=1,NEWCT
7044      NEWFIT(IFAC)=0
7045      IR=NEWPAR(1,IFAC)
7046      IV=NEWPAR(2,IFAC)
7047      IP=NEWPAR(3,IFAC)
7048      IERNEW=IERPTR(0,IP,IV,IR)
7049      C
7050      IF(IERNEW.NE.0) GOTO 10
7051      CALL QUITER(0.,IFAC,51,INERR)
7052      GOTO 30
7053      C
7054      10 MYGERQ(IERNEW,1,IP,IV,IR)=NEWPAR(4,IFAC)
7055      MYGERQ(IERNEW,2,IP,IV,IR)=NEWPAR(5,IFAC)
7056      ZMLBEF(IERNEW,IP,IV,IR)=BERNEW(1,IFAC)
7057      DRBEF(IERNEW,IP,IV,IR)=BERNEW(2,IFAC)

```

Appendix C: MOBILE3 Subroutine NEWERQ

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```
7058      NEWFIT(IFAC)=1
7059      C
7060      C Warn user and then zero out all idle coefficients for the altered
7061      C (IP,IV,IR) equation case.
7062      C
7063      CALL QUITER(0.,IFAC,59,INERR)
7064      DO 20 IEQU=1,MAXEQU
7065      ZMLIDL(IEQU,IP,IV,IR)=0.0
7066      DRIDL(IEQU,IP,IV,IR)=0.0
7067      20 CONTINUE
7068      30 CONTINUE
7069      C
7070      RETURN
7071      END
```

```

8000      SUBROUTINE GETIMC(*)
8001      C
8002      C GETIMC reads in user supplied alternative I/M credits. GETIMC is called
8003      C only when IMFLAG = 2 and NUDATA > 1.
8004      C
8005      C Called by ONESEC.
8006      C
8007      C Input on call:
8008      C
8009      C common blocks:
8010      C /IMPAR2/ NUDATA
8011      C /IOUCOM/ IOUIMD,IOUERR
8012      C
8013      C Output on return:
8014      C
8015      C common blocks:
8016      C /IMCR12/ CRED12
8017      C /IMCR4P/ CRED4P
8018      C /IMPAR2/ NLIM,IMNAME
8019      C
8020      C Notes:
8021      C
8022      C Split /IMCOM/ into /IMPAR1/ and /IMPAR2/, corresponding to old lines 1 &
8023      C 2 of /IMCOM/. Renamed NLINES to NLIM, STRING(18,9) to IMNAME(20,9) and
8024      C (locally) N to NCH in the IMNAME read statement. Expanded name I/O formats
8025      C from 18 to 20 A4, since the descriptive formats are minimally 80 col wide.
8026      C
8027      C
8028      COMMON /IMCR12/ CRED12(19,20,5,2,2)
8029      COMMON /IMCR4P/ CRED4P(19,2,7,3,3)
8030      COMMON /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME(20,9)
8031      COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
8032      C
8033      C Read the number of lines in the I/M credits description.
8034      C
8035      READ(IOUIMD,100,END=80,ERR=90)NLIM
8036      100 FORMAT(I1)
8037      C
8038      IF(NLIM.EQ.0) GOTO 20
8039      C
8040      C Read I/M program credits file description.
8041      C
8042      DO 10 LINES=1,NLIM
8043      READ(IOUIMD,110,END=80,ERR=90)(IMNAME(NCH,LINES),NCH=1,20)
8044      110 FORMAT(20A4)
8045      10 CONTINUE
8046      C
8047      C Read in user supplied I/M credits, for technologies 1/2 or 4+ or both.
8048      C
8049      20 IF(NUDATA.EQ.2.OR.NUDATA.EQ.4)READ(IOUIMD,120,END=80,ERR=90)CRED12
8050      IF(NUDATA.GT.2) READ(IOUIMD,120,END=80,ERR=90)CRED4P
8051      120 FORMAT(19F4.3)
8052      RETURN
8053      C
8054      80 WRITE(IOUERR,300)
8055      300 FORMAT(' ','End-of-file return on read of unit IOUIMD',
8056      * ' (new I/M credits). Run aborted.'/O',' ')
8057      GOTO 99

```

Appendix C: MOBILE3 Subroutine GETIMC

June 7, 1984

```
8058 C
8059 90 WRITE(10UERR,310)
8060 310 FORMAT('-', 'Error return on read of unit 10UIMD',
8061 * ' (new I/M credits). Run aborted.'/'0', ' ')
8062 99 RETURN
8063 END
```



```

9000      SUBROUTINE GETATP(INERR,*)
9001      C
9002      C GETATP reads in and verifies user supplied anti-tampering program
9003      C parameters and effectiveness rates. GETATP is called when ATPFLG = 2.
9004      C
9005      C Called by ONESEC.
9006      C
9007      C Input on call:
9008      C
9009      C   parameter list: INERR
9010      C   common blocks:
9011      C   /FLAGS1/ IPROMT
9012      C   /IOUCOM/ IOUAER,IOUASK
9013      C   /YEARS4/ IY1960,IY2020
9014      C
9015      C Output on return:
9016      C
9017      C   parameter list: INERR
9018      C   common blocks:
9019      C   /ATPPAR/ LAPSY,LAPIST,LAPLST,LVTFLG,NLAT,ATNAME
9020      C   /EGSCAL/ AER
9021      C   /EVPDAT/ EVPAER
9022      C
9023      C Local variable dictionary:
9024      C
9025      C   Name      Type      Description
9026      C   -----
9027      C   COLSUM    R          column sum values from AER: each column's sum must be within
9028      C                      the closed interval from 0.0 to 1.0.
9029      C   EVP        R          evaporative A-T effectiveness rate: each rate must be within
9030      C                      the closed interval from 0.0 to 1.0.
9031      C   LVT        I          flag indicating whether or not a vehicle type is covered by
9032      C                      the A-T program: value must be either 1 (no) or 2 (yes).
9033      C   RATE        R          A-T effectiveness rate against exhaust emissions: each rate
9034      C                      must be within the closed interval from 0.0 to 1.0.
9035      C
9036      C
9037      C   INTEGER TAMFLG,SPDFLG,VMFLAG
9038      C
9039      C   COMMON /ATPPAR/ LAPSY,LAPIST,LAPLST,LVTFLG(4),NLAT,ATNAME(20,9)
9040      C   COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
9041      C   COMMON /EVPDAT/ EVPAER(2,2),EVPTGS(3,2,4),EVPEMI(11,3,4)
9042      C   COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
9043      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
9044      C   COMMON /YEARS4/ IY1941,IY1960,IY2020
9045      C
9046      C Identify program parameters: start year, first year covered, last year
9047      C covered and vehicle types covered.
9048      C
9049      C   IF (IPROMT.EQ.2) WRITE(IOUASK,200)
9050      C 200 FORMAT('O','Enter ATP start year, first & last years included,')
9051      C      *      'and vehicle types covered (format = 312,411):')
9052      C   READ(IOUGEN,100,END=80,ERR=90)LAPSY,LAPIST,LAPLST,LVTFLG
9053      C 100 FORMAT(3(12,1X),411)
9054      C
9055      C Verify parameters:
9056      C
9057      C   CALL YRTEST(LAPSY,75,IY1960,IY2020,INERR)

```

```

9058      CALL YRTEST(LAPIST,76,IY1960,IY2020,INERR)
9059      CALL YRTEST(LAPLST,77,IY1960,IY2020,INERR)
9060      C
9061      DO 10 IVTAM=1,4
9062      LVT=LVTFLG(IVTAM)
9063      IF (LVT.LT.1.OR.LVT.GT.2) CALL QUITER(0.,LVT,78,INERR)
9064      10 CONTINUE
9065      C
9066      C Read in the number of lines in the AER file description.
9067      C
9068      READ(10UAER,110,END=80,ERR=90) NLAT
9069      110 FORMAT(11)
9070      C
9071      IF (NLAT.EQ.0) GOTO 30
9072      C
9073      C Read anti-tampering program effectiveness rates matrices file description.
9074      C
9075      DO 20 LINES=1,NLAT
9076      READ(10UAER,120,END=80,ERR=90) (ATNAME(NCH,LINES),NCH=1,20)
9077      120 FORMAT(20A4)
9078      20 CONTINUE
9079      C
9080      C Read in effectiveness rates from file attached to unit 10UAER.
9081      C
9082      30 READ(10UAER,130,END=80,ERR=90) EVPAER
9083      130 FORMAT(4F5.2)
9084      DO 40 IAY=1,2
9085      DO 40 IHG=1,2
9086      EVP=EVPAER(IHG,IAY)
9087      IF (EVP.LT.0.0.OR.EVP.GT.1.0) CALL QUITER(EVP,0,79,INERR)
9088      40 CONTINUE
9089      C
9090      C Note: ICOL / IROW here refers to the input file layout of the arrays.
9091      C In subroutine ATPEFF the labels are switched, to indicate the actual
9092      C orientation of the matrices in the effectiveness computation process.
9093      C
9094      READ(10UAER,140,END=80,ERR=90) AER
9095      140 FORMAT(11F5.2)
9096      DO 60 IAY=1,2
9097      DO 60 IPG=1,2
9098      DO 60 ICOL=1,11
9099      COLSUM=0.0
9100      DO 50 IROW=1,11
9101      RATE=AER(ICOL,IROW,IPG,IAY)
9102      IF (RATE.LT.0.0.OR.RATE.GT.1.0) CALL QUITER(RATE,0,80,INERR)
9103      COLSUM=COLSUM+RATE
9104      50 CONTINUE
9105      IF (COLSUM.LT.0.0.OR.COLSUM.GT.1.0) CALL QUITER(COLSUM,0,81,INERR)
9106      60 CONTINUE
9107      RETURN
9108      C
9109      80 WRITE(10UERR,300)
9110      300 FORMAT(' ','End-of-file return on read of unit 10UAER',
9111      *      ' (ATP effectiveness rates). Run aborted.'/0',' ')
9112      GOTO 99
9113      C
9114      90 WRITE(10UERR,310)
9115      310 FORMAT(' ','Error return on read of unit 10UAER',

```

Appendix C: MOBILE3 Subroutine GETATP

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```

9116      *      ' (ATP effectiveness rates). Run aborted. '/'0', ' ')
9117      99 RETURN1
9118      END

```

Appendix C: MOBILE3 Subroutine CCEVAX

June 7, 1984

```

10000      SUBROUTINE CCEVAX
10001      C
10002      C CCEVAX enters user-supplied trip data. Originally, CCEVAX also computed HC
10003      C crankcase and evaporative emission factors. That calculation is now
10004      C performed by function CCEVRT.
10005      C
10006      C Called by ONESEC.
10007      C
10008      C Input on call:
10009      C
10010      C   common blocks:
10011      C   /CEVCOM/ USRTPD,USRMPD
10012      C   /TPDCOM/ MAXTPD
10013      C   /SYSCOM/ MAXVEH,MAXREG
10014      C   /XMPCOM/ MAXXMP
10015      C   /YEARS4/ IY2020
10016      C
10017      C Output on return:
10018      C
10019      C   common blocks:
10020      C   /TPDCOM/ TPDVAL,MYGTPD
10021      C   /XMPCOM/ XMPVAL,MYGMPD
10022      C
10023      C
10024      COMMON /CEVCOM/ USRTPD (8) ,USRMPD (8)
10025      COMMON /TPDCOM/ MAXTPD,TPDVAL (2,8,2) ,MYGTPD (2,8,2)
10026      COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
10027      COMMON /XMPCOM/ MAXXMP,XMPVAL (2,8,2) ,MYGMPD (2,8,2)
10028      COMMON /YEARS4/ IY1941,IY1960,IY2020
10029      C
10030      C Substitute user-supplied trip data here.
10031      C
10032      DO 30 IR=1,MAXREG
10033      DO 30 IV=1,MAXVEH
10034      C
10035      XMPVAL (1,IV,IR)=USRMPD (IV)
10036      MYGMPD (1,IV,IR)=IY2020
10037      DO 10 IG=2,MAXXMP
10038      XMPVAL (IG,IV,IR)=0.0
10039      MYGMPD (IG,IV,IR)=0
10040      10 CONTINUE
10041      C
10042      TPDVAL (1,IV,IR)=USRTPD (IV)
10043      MYGTPD (1,IV,IR)=IY2020
10044      DO 20 IG=2,MAXTPD
10045      TPDVAL (IG,IV,IR)=0.0
10046      MYGTPD (IG,IV,IR)=0
10047      20 CONTINUE
10048      C
10049      30 CONTINUE
10050      C
10051      RETURN
10052      END

```


Appendix C: MOBILE3 Subroutine QUITER

June 7, 1984

```

11000      SUBROUTINE QUITER(RVALUE,IVALUE,MESSAG,INERR)
11001      C
11002      C   QUITER prints error and warning messages on unit IOUERR.
11003      C
11004      C   Called by CONSEC, CRANKC, DIURNL, EFCALX, GETATP, HOTSOK, IERPTR,
11005      C           IEXMPT, IGEPTR, IGLPTR, IGPTR, IGSFPT, IGTPT, IGUPTR,
11006      C           ISPPTR, ISPPT8, ITCPTR, NEWERQ, ONESEC, PARSEC, TFCALX,
11007      C           TPD, XMPD and YRTEST.
11008      C
11009      C   Input on call:
11010      C
11011      C       parameter list: RVALUE,IVALUE,MESSAG,INERR
11012      C       common blocks:
11013      C       /IOUCOM/ IOUREP,IOUERR,IOUASK
11014      C       /NEWCOM/ NEWPAR
11015      C       /NEWEQU/ MAXEQU
11016      C       /YEARS4/ IY1941,IY1960,IY2020
11017      C
11018      C   Output on return:
11019      C
11020      C       parameter list: INERR
11021      C
11022      C   Warning: there is a conditional branch to STOP at statement number 98.
11023      C
11024      C   Local array subscripts:
11025      C
11026      C   IOBMSG(5) - IOBMSG ( ICH )
11027      C   NAMFLG(15) - NAMFLG ( ICH )
11028      C   NAMFNC(16) - NAMFNC ( ICH )
11029      C   NAMVEH(8) - NAMVEH ( IV )
11030      C
11031      C   Local variable / array dictionary:
11032      C
11033      C   Name      Type      Description
11034      C   ----      -
11035      C   IOBMSG      I      character string vector: 'out of bounds for'
11036      C   MAXMES      I      maximum message code value ( = 83 in MOBILE3 release version)
11037      C   MCODE       I      = MESSAG = message code, unless < 0 or > MAXMES => = 1
11038      C   NAMFLG      R*8    control flag names + 'Unknown'
11039      C   NAMFNC      R*8    function names (to identify subprogram source of error)
11040      C   NAMVEH      R*8    vehicle type names
11041      C
11042      C   Notes:
11043      C
11044      C   The error message for the new function ITCPTR was installed.
11045      C   Error/warning code related to INFLAG, TRKFLG & UNFFLG removed and replaced
11046      C   with code for TAMFLG & ATPFLG. Error code 73 refers to ITEST, not IOPTN.
11047      C   Error codes 82 (refers to ICUTS) and 83 (refers to interpolated altitude)
11048      C   added. MAXMES accordingly was increased to 83, leaving MESSAG values
11049      C   84-97 available for future additions to QUITER's messages.
11050      C
11051      C
11052      C       COMMON /IOUCOM/ IOUAE,IOUID,IOUGEN,IOUREP,IOUERR,IOUASK
11053      C       COMMON /NEWCOM/ NEWPAR(5,100),BERNEW(2,100),NEWFIT(100),NEWCT
11054      C       COMMON /NEWEQU/ MAXEQU
11055      C       COMMON /YEARS4/ IY1941,IY1960,IY2020
11056      C
11057      C       DIMENSION IOBMSG(5)

```

```

11058 C
11059 REAL*8 NAMFLG(15),NAMVEH(8),NAMFNC(16)
11060 C
11061 DATA NAMFLG/
11062 * ' Unknown',
11063 * ' IPROMT ',
11064 * ' TAMFLG ',
11065 * ' SPDFLG ',
11066 * ' VMFLAG ',
11067 * ' MYMRFG ',
11068 * ' NEWFLG ',
11069 * ' IMFLAG ',
11070 * ' ALHFLG ',
11071 * ' ATPFLG ',
11072 * ' IFORM ',
11073 * ' PRTFLG ',
11074 * ' ICEVFG ',
11075 * ' IDLFLG ',
11076 * ' NHMFLG '/
11077 C
11078 DATA NAMVEH/
11079 * ' LDGV ',
11080 * ' LDGT1 ',
11081 * ' LDGT2 ',
11082 * ' HDGV ',
11083 * ' LDDV ',
11084 * ' LDDT ',
11085 * ' HDDV ',
11086 * ' MC '/
11087 C
11088 DATA NAMFNC/
11089 * ' HOTSOK ',
11090 * ' TPD ',
11091 * ' DIURNL ',
11092 * ' XMPD ',
11093 * ' CRANKC ',
11094 * ' IGEPTR ',
11095 * ' IGUPTR ',
11096 * ' IGLPTR ',
11097 * ' IGTPTT ',
11098 * ' IGPPTT ',
11099 * ' IERPTR ',
11100 * ' ISPPTR ',
11101 * ' ISPTT8 ',
11102 * ' IEXMPT ',
11103 * ' ITCPTR ',
11104 * ' IGSFPT '/
11105 C
11106 DATA IOBMSG/
11107 * ' ou','t of',' bou','nds ','for '/
11108 C
11109 DATA MAXMES/83/
11110 C
11111 MCODE=MESSAG
11112 C
11113 C Trap unknown errors.
11114 C
11115 IF (MCODE.LT.1.OR.MCODE.GT.MAXMES) MCODE=1

```

```

11116 C
11117 C Test for warnings.
11118 C
11119 IF (MCODE.NE.16.AND.MCODE.NE.21.AND.MCODE.NE.22.AND.MCODE.NE.31
11120 * .AND.MCODE.NE.49.AND.MCODE.NE.52.AND.MCODE.NE.53
11121 * .AND.MCODE.NE.56.AND.MCODE.NE.59.AND.MCODE.NE.71)
11122 * WRITE(10UERR,300)
11123 300 FORMAT(' ',T2,'*** Error:')
11124 C
11125 C Branch to the appropriate error / warning message.
11126 C
11127 GOTO(
11128 * 10, 11, 11, 11, 11, 11, 11, 11, 11, 11,
11129 * 11, 11, 11, 11, 11, 16, 17, 18, 19, 20,
11130 * 21, 22, 23, 24, 25, 26, 27, 27, 29, 30,
11131 * 31, 32, 33, 34, 35, 36, 37, 38, 39, 40,
11132 * 41, 42, 43, 44, 45, 46, 47, 48, 49, 50,
11133 * 51, 52, 53, 54, 55, 56, 57, 58, 59, 60,
11134 * 61, 62, 63, 64, 65, 66, 67, 68, 69, 70,
11135 * 71, 72, 73, 74, 75, 76, 77, 78, 79, 80,
11136 * 81, 82, 83
11137 * ),MCODE
11138 C
11139 10 WRITE(10UERR,310) MESSAG,NAMFLG(MCODE)
11140 310 FORMAT('+',10X,'Message code ',14,A8)
11141 GOTO 98
11142 11 WRITE(10UERR,311) IVALUE,10BMSG,NAMFLG(MCODE)
11143 311 FORMAT('+',10X,14,5A4,'flag',A8)
11144 IF (MCODE.EQ.2) WRITE(10UERR,312)
11145 312 FORMAT(' ','Prompt/mode type (1 to 4) must be corrected before',
11146 * ' your next run.')
11147 GOTO 98
11148 16 WRITE(10UERR,316) RVALUE
11149 316 FORMAT(' ','Warning: ',G10.3,' speed reduced to 55 m.p.h.',
11150 * ' maximum')
11151 GOTO 99
11152 17 WRITE(10UERR,317) RVALUE,10BMSG
11153 317 FORMAT('+',10X,G10.3,5A4,'VMTMIX (0. to 1.)')
11154 GOTO 98
11155 18 WRITE(10UERR,318) RVALUE
11156 318 FORMAT('+',10X,G10.3,' sum of VMTMIX is not equal to 1.')
11157 GOTO 98
11158 19 WRITE(10UERR,319) RVALUE
11159 319 FORMAT('+',10X,G10.3,' negative model year mileage')
11160 GOTO 98
11161 20 WRITE(10UERR,320) RVALUE
11162 320 FORMAT('+',10X,G10.3,' negative model year registration')
11163 GOTO 98
11164 21 WRITE(10UERR,321) RVALUE
11165 321 FORMAT(' ','Warning: ',G10.3,' registration with zero mileage')
11166 GOTO 99
11167 22 WRITE(10UERR,322) RVALUE
11168 322 FORMAT(' ','Warning: ',G10.3,' mileage with zero registration')
11169 GOTO 99
11170 23 WRITE(10UERR,323) IVALUE,10BMSG
11171 323 FORMAT('+',10X,14,5A4,'e.f. changes (1 to 100 pairs)')
11172 GOTO 98
11173 24 WRITE(10UERR,324) IVALUE,10BMSG

```


Appendix C: MOBILE3 Subroutine QUITER

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```

11174      324 FORMAT('+',10X,14,5A4,'region (1,2,3 only)')
11175      GOTO 98
11176      25 WRITE(10UERR,325) IVALUE,10BMSG
11177      325 FORMAT('+',10X,14,5A4,'vehicle type (1 to 8)')
11178      GOTO 98
11179      26 WRITE(10UERR,326) IVALUE,10BMSG
11180      326 FORMAT('+',10X,14,5A4,'pollutant (1 to 3)')
11181      GOTO 98
11182      27 WRITE(10UERR,327) IVALUE,10BMSG,1Y1941,1Y2020
11183      327 FORMAT('+',10X,14,5A4,'year (' ,14,' to ' ,14,')')
11184      GOTO 98
11185      29 WRITE(10UERR,329)
11186      329 FORMAT('+',10X,' last year cannot be less than first year')
11187      GOTO 98
11188      30 WRITE(10UERR,330) RVALUE
11189      330 FORMAT('+',10X,G10.3,' intercept must be positive')
11190      GOTO 98
11191      31 WRITE(10UERR,331) RVALUE
11192      331 FORMAT(' ','Warning: ' ,G10.3,' negative slope for ageing vehicle')
11193      GOTO 99
11194      32 WRITE(10UERR,327) IVALUE,10BMSG,1Y1960,1Y2020
11195      GOTO 98
11196      33 WRITE(10UERR,333) IVALUE,10BMSG
11197      333 FORMAT('+',10X,14,5A4,'stringency (10 to 50)')
11198      GOTO 98
11199      34 WRITE(10UERR,334) IVALUE,10BMSG
11200      334 FORMAT('+',10X,14,5A4,'mechanics training (1 to 2)')
11201      GOTO 98
11202      35 WRITE(10UERR,335) IVALUE,10BMSG,1Y1941,1Y2020
11203      335 FORMAT('+',10X,14,5A4,'MODYR1 (' ,14,' to ' ,14,')')
11204      GOTO 98
11205      36 WRITE(10UERR,336) IVALUE,10BMSG,1Y1941,1Y2020
11206      336 FORMAT('+',10X,14,5A4,'MODYR2 (' ,14,' to ' ,14,')')
11207      GOTO 98
11208      37 WRITE(10UERR,337)
11209      337 FORMAT('+',10X,' MODYR1 cannot be greater than MODYR2')
11210      GOTO 98
11211      38 WRITE(10UERR,327) IVALUE,10BMSG,1Y1960,1Y2020
11212      GOTO 98
11213      39 WRITE(10UERR,339) RVALUE
11214      339 FORMAT('+',10X,G10.3,' speed must be positive')
11215      GOTO 98
11216      40 WRITE(10UERR,340) RVALUE
11217      340 FORMAT('+',10X,G10.3,' valid temperature is 0-110 deg. (F)')
11218      GOTO 98
11219      41 WRITE(10UERR,341) RVALUE,10BMSG
11220      341 FORMAT('+',10X,G10.3,5A4,'PCCN (0. to 100.)')
11221      GOTO 98
11222      42 WRITE(10UERR,342) RVALUE,10BMSG
11223      342 FORMAT('+',10X,G10.3,5A4,'PCHC (0. to 100.)')
11224      GOTO 98
11225      43 WRITE(10UERR,343) RVALUE,10BMSG
11226      343 FORMAT('+',10X,G10.3,5A4,'PCCC (0. to 100.)')
11227      GOTO 98
11228      44 WRITE(10UERR,344) RVALUE,10BMSG
11229      344 FORMAT('+',10X,G10.3,5A4,'AC (0. to 1.)')
11230      GOTO 98
11231      45 WRITE(10UERR,345) RVALUE,10BMSG

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11232 345 FORMAT('+',10X,G10.3,5A4,'extra load (0. to 1.)')
11233     GOTO 98
11234 46 WRITE(10UERR,346) RVALUE,10BMSG
11235 346 FORMAT('+',10X,G10.3,5A4,'trailers (0. to 1.)')
11236     GOTO 98
11237 47 WRITE(10UERR,347) RVALUE,10BMSG
11238 347 FORMAT('+',10X,G10.3,5A4,'humidity (20. to 140.)')
11239     GOTO 98
11240 48 WRITE(10UERR,348) NAMVEH(IVALUE)
11241 348 FORMAT('+',10X,' there are no sales for vehicle ',A8)
11242     GOTO 98
11243 49 WRITE(10UERR,349) RVALUE
11244 349 FORMAT(' ','Warning: ',G10.3,' MYR sum not = 1. (will normalize)')
11245     GOTO 99
11246 50 WRITE(10UERR,350) RVALUE,10BMSG
11247 350 FORMAT('+',10X,G10.3,5A4,'tampering rate intercept (up to 1.0)')
11248     GOTO 98
11249 51 WRITE(10UERR,351) IVALUE,MAXEQU
11250 351 FORMAT('+',10X,'equation',13,' causes more than',13,
11251 *      ' allowed for any 1 reg/mode/pol.')
11252     GOTO 98
11253 52 WRITE(10UERR,352) RVALUE
11254 352 FORMAT(' ','Warning: ',G10.3,' speed increased',
11255 *      ' to 5 m.p.h. minimum')
11256     GOTO 99
11257 53 WRITE(10UERR,353)
11258 353 FORMAT('O','You must correct all flags before you run again.')
11259     GOTO 98
11260 54 WRITE(10UERR,354) RVALUE
11261 354 FORMAT('+',10X,G10.3,' average trips/day cannot be negative')
11262     GOTO 98
11263 55 WRITE(10UERR,355) RVALUE
11264 355 FORMAT('+',10X,G10.3,' average miles/day cannot be negative')
11265     GOTO 98
11266 56 WRITE(10UERR,356)
11267 356 FORMAT(' ','Comment: A/C correction factor will be calculated.'
11268 *      '/' ',T11,'Value of inputted AC usage parameter is ignored.')
11269     GOTO 99
11270 57 WRITE(10UERR,357)
11271 357 FORMAT('+',10X,'WB temp cannot be greater than DB temp')
11272     GOTO 98
11273 58 WRITE(10UERR,358) RVALUE,10BMSG
11274 358 FORMAT('+',10X,G10.3,5A4,'altitude (-200 to 10,000 ft.)')
11275     GOTO 98
11276 59 WRITE(10UERR,359) IVALUE,(NEWPAR(IPAR,IVALUE),IPAR=1,3)
11277 359 FORMAT(' ','Warning: equation',13,' zeroes all idle coefficients',
11278 *      ' (and total) for IR=',11,', IV=',11,', IP=',11)
11279     GOTO 99
11280 60 WRITE(10UERR,360) RVALUE,INERR,NAMFNC(IVALUE)
11281 360 FORMAT('+',10X,G10.3,' default used for',15,' in function',A8)
11282     GOTO 98
11283 61 WRITE(10UERR,361) INERR,NAMFNC(IVALUE)
11284 361 FORMAT('+',10X,' default used for',15,' in index function',A8)
11285     GOTO 98
11286 62 WRITE(10UERR,362) IVALUE,10BMSG
11287 362 FORMAT('+',10X,14,5A4,'new e.f. region (1,2,3 only)')
11288     GOTO 98
11289 63 WRITE(10UERR,363) RVALUE,10BMSG

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11290 363 FORMAT('+',10X,G10.3,5A4,' (0. <= PCHC+PCCC <= 100.) ')
11291      GOTO 98
11292      64 WRITE(10UERR,364) RVALUE,10BMSG
11293 364 FORMAT('+',10X,G10.3,5A4,' (0. <= PCHC+PCCC-PCCN <= 100.) ')
11294      GOTO 98
11295      65 WRITE(10UERR,365) IVALUE
11296 365 FORMAT('+',10X,' MYR of LDDV not equal to LDGV for JDX=',12)
11297      GOTO 98
11298      66 WRITE(10UERR,366) IVALUE
11299 366 FORMAT('+',10X,' MYR of LDDT not equal to LDGT1 for JDX=',12)
11300      GOTO 98
11301      67 WRITE(10UERR,367) NAMVEH(IVALUE)
11302 367 FORMAT('+',10X,' EFFTP>0. and GSF=0. for vehicle ',A8)
11303      GOTO 98
11304      68 WRITE(10UERR,368) NAMVEH(IVALUE)
11305 368 FORMAT('+',10X,' EFFTP<=0. and VMTMIX>0. for vehicle ',A8)
11306      GOTO 98
11307      69 WRITE(10UERR,369) NAMVEH(IVALUE)
11308 369 FORMAT('+',10X,' EFIDLE>0. and GSF=0. for vehicle ',A8)
11309      GOTO 98
11310      70 WRITE(10UERR,370) NAMVEH(IVALUE)
11311 370 FORMAT('+',10X,' EFIDLE<=0. and VMTMIX>0. for vehicle ',A8)
11312      GOTO 98
11313      71 WRITE(10UERR,371) 10UREP,10UERR,10UASK
11314 371 FORMAT(' ','Comment: Current output unit numbers are',
11315      * ' 10UREP=',11,' 10UERR=',11,' 10UASK=',11)
11316      GOTO 99
11317      72 WRITE(10UERR,372) IVALUE,10BMSG
11318 372 FORMAT('+',10X,14,5A4,'1/M vehicle type (1 to 4) ')
11319      GOTO 98
11320      73 WRITE(10UERR,373) IVALUE,10BMSG
11321 373 FORMAT('+',10X,14,5A4,'short test type flag (1 to 3) ')
11322      GOTO 98
11323      74 WRITE(10UERR,374) IVALUE,10BMSG
11324 374 FORMAT('+',10X,14,5A4,'new 1/M data flag (1 to 4) ')
11325      GOTO 98
11326      75 WRITE(10UERR,375) IVALUE,10BMSG
11327 375 FORMAT('+',10X,14,5A4,'anti-tampering program start year')
11328      GOTO 98
11329      76 WRITE(10UERR,376) IVALUE,10BMSG
11330 376 FORMAT('+',10X,14,5A4,'anti-tampering program 1st model year')
11331      GOTO 98
11332      77 WRITE(10UERR,377) IVALUE,10BMSG
11333 377 FORMAT('+',10X,14,5A4,'anti-tampering program last model year')
11334      GOTO 98
11335      78 WRITE(10UERR,378) IVALUE,10BMSG
11336 378 FORMAT('+',10X,14,5A4,'anti-tampering vehicle type (1 to 2) ')
11337      GOTO 98
11338      79 WRITE(10UERR,379) RVALUE,10BMSG
11339 379 FORMAT('+',10X,G10.3,5A4,'evap ATP effectiveness rate (0. to 1.) ')
11340      GOTO 98
11341      80 WRITE(10UERR,380) RVALUE,10BMSG
11342 380 FORMAT('+',10X,G10.3,5A4,'exh ATP effectiveness rate (0. to 1.) ')
11343      GOTO 98
11344      81 WRITE(10UERR,381) RVALUE,10BMSG
11345 381 FORMAT('+',10X,G10.3,5A4,'AER matrix file column sum (0. to 1.) ')
11346      GOTO 98
11347      82 WRITE(10UERR,382) IVALUE,10BMSG

```

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```

11348 . 382 FORMAT('+',10X,14,5A4,'19 + vehicles cutpoints flag (1 to 3)')
11349       GOTO 98
11350       83 WRITE(10UERR,383) RVALUE,10BMSG
11351 C
11352 C Use F, not G, format because PARSEC check of entered altitude aborts
11353 C scenario if altitude < -200 or > 10000 feet (see QUITER message 58).
11354 C
11355       383 FORMAT('+',10X,F6.0,5A4,'altitude (region = 3 => alt. < 1500.)')
11356 C
11357 C Messages 60 and 61 produce excessive output if not stopped here.
11358 C
11359       98 IF (MCODE.EQ.1.OR.MCODE.EQ.2.OR.MCODE.EQ.53.OR.MCODE.EQ.60
11360          *      .OR.MCODE.EQ.61) STOP
11361          INERR=INERR+1
11362 C
11363       99 RETURN
11364       END

```

```

12000      SUBROUTINE REGMOD(ICY,INERR)
12001      C
12002      C  REGMOD adjusts model year mileage/registration arrays.
12003      C
12004      C  Called by MAIN.
12005      C
12006      C  Calls HDDMYM, IGSFPT and TFCALX.
12007      C
12008      C  Input on call:
12009      C
12010      C    parameter list: ICY,INERR
12011      C    common blocks:
12012      C    /FLAGS2/ MYMRFG
12013      C    /GSFCOM/ GSFRAC
12014      C    /MYRSAV/ AMAR,JULMYR
12015      C    /REGCOM/ IREJN,ALT
12016      C    /SYSCOM/ MAXVEH
12017      C
12018      C  Output on return:
12019      C
12020      C    parameter list: INERR
12021      C    common blocks:
12022      C    /MYRCAL/ XMYM,JANMYR,TFMYM
12023      C    /REGSUM/ GSFVCT
12024      C
12025      C  Local array subscripts:
12026      C
12027      C  CUM(20)  -  CUM ( JDX )
12028      C  DAF (8)   -  DAF ( IV )
12029      C
12030      C  Local variable / array dictionary:
12031      C
12032      C   Name      Type      Description
12033      C   -----
12034      C  CUM        R      cumulative mileage distribution as of January 1
12035      C  DAF        R      unnormalized sum by IV of registrations across my's
12036      C                      (acronym is from ef derivation document)
12037      C  FRC        R      fraction of January 1 registrations in current year JDX
12038      C                      which are in their JDX'th year of operation
12039      C  FRN        R      fraction of January 1 registrations in current year JDX
12040      C                      which are in their JDX-1'th year of operation (1 year newer)
12041      C  GSFIDX     R      gross sales fraction (GSF) for model year IDX, given IV & IR;
12042      C                      used to extract IV's share of pairwise registration sum
12043      C  AMC        R      mileage accrual rate for vehicle of type IV in its JDX'th
12044      C                      year of operation
12045      C  AMN        R      mileage accrual rate for vehicle of type IV in its JDX-1th
12046      C                      year of operation (a vehicle in JDX-1 is 1 year "newer" than
12047      C                      a JDX year old vehicle)
12048      C  MY         I      see parameter dictionary
12049      C  SUMLDV     R      LDV DAF's combined (both gas & diesel registrations)
12050      C  SUMLDT     R      LDT DAF's combined (both gas & diesel registrations)
12051      C
12052      C  Notes:
12053      C
12054      C  Registration distributions modification ("REGMOD") process was initially
12055      C  changed so that HDV's were split via gross sales fractions into their gas
12056      C  & diesel shares, both at the model year and the aggregate (all my's) level.
12057      C  These special HDV sales fraction calculations were subsequently removed.

```



```

12058 C MOBILE3 now uses the same process for HDV registrations as MOBILE2 did.
12059 C
12060 C Several variables were deleted, renamed, or created:
12061 C
12062 C Deleted: S & X(20) in the MYR section
12063 C Renamed: SUM1(8) to DAF(8), GSFVCT(8), & (SUMLDV,SUMLDT), to cover
12064 C the 3 related but distinct uses of SUM1;
12065 C Z & ZZ to FRC & FRN, S & SS to AMN & AMC and X(20) to CUM(20),
12066 C to clarify the January 1 mileage distributions derivation methods
12067 C XMYR to JANMYR, January 1 model year registrations.
12068 C Created: GSFIDX
12069 C
12070 C The HDDV MYM is now calculated for each calendar year. This is
12071 C accomplished by calling the subroutine HDDMYM. HDDMYM is only called
12072 C for default purposes. If the user inputs MYM, then they alone are used.
12073 C
12074 C
12075 C     INTEGER ALHFLG,ATPFLG
12076 C     REAL JULMYR,JANMYR
12077 C
12078 C     COMMON /FLAGS2/ MYMRF,NEWFLG,IMFLAG,ALHFLG,ATPFLG
12079 C     COMMON /GSFCOM/ MAXGSF,GSFRAC(22,8,2),MYGSF(22,8,2)
12080 C     COMMON /MYRSV/ AMAR(20,8),JULMYR(20,8),NEWCUM
12081 C     COMMON /MYRCAL/ XMYM(20,8),JANMYR(20,8),TF(20,8),TFMYM(20,8)
12082 C     COMMON /REGCOM/ IREJN,ALT
12083 C     COMMON /REGSUM/ GSFVCT(8)
12084 C     COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
12085 C
12086 C     DIMENSION CUM(20),DAF(8)
12087 C     REAL AMC,AMN
12088 C
12089 C Temporary code to reassign region = 3 (interpolate between low and high
12090 C altitude data), an option allowed, but not implemented, in MOBILE3.
12091 C
12092 C     IR=IREJN
12093 C     IF(IR.NE.3) GOTO 10
12094 C     IR=1
12095 C     IF(ALT.GE.4000.) IR=2
12096 C
12097 C Compute January 1 registration distributions, JANMYR.
12098 C
12099 C     10 DO 30 IV=1,MAXVEH
12100 C
12101 C Step 1: for each model year of each vehicle type, select and apply the
12102 C corresponding gross sales fraction to the (gas & diesel combined)
12103 C July 1 registrations.
12104 C
12105 C     DO 20 JDX=1,20
12106 C     MY=ICY-JDX+1
12107 C     IGS=IGSFPT(MY,IV,IR)
12108 C     GSFIDX=GSFRAC(IGS,IV,IR)
12109 C     JANMYR(JDX,IV)=GSFIDX*JULMYR(JDX,IV)
12110 C     20 CONTINUE
12111 C
12112 C Step 2: backup ICY's registrations from 7/1 to 1/1 -
12113 C     LDV/T => my starts 10/1 prior yr => 1/1 sales are 1/3 of 7/1 sales.
12114 C     HDV & MC => my starts 1/1 => 1/1 sales are 0.
12115 C

```

```

12116      JANMYR(1,IV)=JANMYR(1,IV)/3.
12117      IF (IV.EQ.4.OR.IV.GE.7) JANMYR(1,IV)=0.0
12118      30 CONTINUE
12119      C
12120      C Step 3: normalize JANMYR.
12121      C
12122      DO 50 IV=1,MAXVEH
12123      DAF(IV)=0.0
12124      DO 40 JDX=1,20
12125      DAF(IV)=DAF(IV)+JANMYR(JDX,IV)
12126      40 CONTINUE
12127      DO 50 JDX=1,20
12128      IF (DAF(IV).GT.0.) JANMYR(JDX,IV)=JANMYR(JDX,IV)/DAF(IV)
12129      50 CONTINUE
12130      C
12131      C Given DAF (JAN 1 unnormalized total (all 20 my's combined) registrations),
12132      C calculate the <gas | diesel> / (gas + diesel) fractions for LDV & LDT.
12133      C HDV & MC are assigned unity, since there is no combined gas + diesel
12134      C number in VCOUNT in TFCALX to split by fuel type fraction for these
12135      C vehicle types. An attempt was made to model the HDV gas vs diesel sales,
12136      C but the results proved unsatisfactory.
12137      C
12138      SUMLDV=DAF(1)+DAF(5)
12139      SUMLDT=DAF(2)+DAF(6)
12140      C
12141      GSFVCT(1)=DAF(1)/SUMLDV
12142      GSFVCT(2)=DAF(2)/SUMLDT
12143      GSFVCT(3)=1.
12144      GSFVCT(4)=1.
12145      GSFVCT(5)=DAF(5)/SUMLDV
12146      GSFVCT(6)=DAF(6)/SUMLDT
12147      GSFVCT(7)=1.
12148      GSFVCT(8)=1.
12149      C
12150      C Generate the mileage accrual rates.
12151      C
12152      C If MOBILE3 defaults used, determine the HDDV calendar year mileage
12153      C by registration weighting. Otherwise, use user input mileage.
12154      C
12155      IF (MYMRFG.EQ.1.OR.MYMRFG.EQ.3) CALL HDDMYM(ICY)
12156      C
12157      C Compute the annual mileage / 100,000 distributions, XMYM.
12158      C
12159      DO 70 IV=1,MAXVEH
12160      FRC=.25
12161      IF (IV.EQ.4.OR.IV.EQ.7.OR.IV.EQ.8) FRC=0.0
12162      FRN=1.-FRC
12163      AMN=AMAR(1,IV)
12164      AMC=AMAR(2,IV)
12165      CUM(1)=.5*FRC*AMN
12166      CUM(2)=FRC*(.5*FRC*AMC+AMN)+FRN*((1.+FRC)*.5*AMN)
12167      AMC=AMC+AMN
12168      C
12169      DO 60 JDX=3,20
12170      CUM(JDX)=FRC*(.5*FRC*AMAR(JDX,IV)+AMC)+FRN*(.5*(1.+FRC)
12171      * *AMAR(JDX-1,IV)+AMN)
12172      AMN=AMC
12173      AMC=AMC+AMAR(JDX,IV)

```

```
12174      60 CONTINUE
12175      C
12176      C Subroutine GETCUM produces the cumulative mileage partial sums array,
12177      C CUMMIL, from XMYM.
12178      C
12179          XMYM(1,IV)=CUM(1)
12180          DO 70 JDX=2,20
12181              XMYM(JDX,IV)=CUM(JDX)-CUM(JDX-1)
12182      70 CONTINUE
12183      C
12184      C Now figure the January 1 model year mileage accumulation rates, TFMYM.
12185      C
12186          DO 90 IV=1,MAXVEH
12187              FRC=.25
12188              TFMYM(1,IV)=AMAR(1,IV)
12189              IF (IV.NE.4.AND.IV.NE.7.AND.IV.NE.8) GOTO 80
12190              FRC=0.0
12191              TFMYM(1,IV)=0.0
12192      80 FRN=1.-FRC
12193      C
12194          DO 90 JDX=2,20
12195              TFMYM(JDX,IV)=AMAR(JDX-1,IV)*FRN+AMAR(JDX,IV)*FRC
12196      90 CONTINUE
12197      C
12198      C Use JANMYR, TFMYM, and GSFVCT to generate the vmt mix and travel fractions.
12199      C
12200          CALL TFCALX(INERR)
12201      C
12202          RETURN
12203          END
```

```

13000      SUBROUTINE HDDMYM(ICY)
13001      C
13002      C   HDDMYM computes annual weighted calendar year mileage for HDDV.
13003      C
13004      C   Called by REGMOD.
13005      C
13006      C   Input on call:
13007      C
13008      C       parameter list: ICY
13009      C       common blocks:
13010      C       /HDDMAR/ LHDVM,MHDVM,HHDMV
13011      C       /HDDREG/ LHDRG,MHDRG,HHDRG
13012      C
13013      C   Output on return:
13014      C
13015      C       common block: /MYRSAV/ AMAR,NEWCUM
13016      C
13017      C   Notes:
13018      C
13019      C   HDDMYM is a new subprogram (added for MOBILE3).
13020      C
13021      C
13022      C       REAL JULMYR
13023      C
13024      C       COMMON /HDDMAR/ C2BDVM(20),LHDVM(20),MHDVM(20),HHDMV(20)
13025      C       COMMON /HDDREG/ C2BDRG(21),LHDRG(21),MHDRG(21),HHDRG(21)
13026      C       COMMON /MYRSAV/ AMAR(20,8),JULMYR(20,8),NEWCUM
13027      C
13028      C       REAL LHDVM,MHDVM,HHDMV,LHDRG,MHDRG,HHDRG
13029      C
13030      C   Determine pointer KDX. KDX=1 for 1980-, 2 for 1981,
13031      C   3 for 1982, ..., 21 for 2000+.
13032      C
13033      C       KDX = ICY - 1979
13034      C       IF (KDX.LT.1) KDX = 1
13035      C       IF (KDX.GT.21) KDX = 21
13036      C
13037      C   Compute registration weighted annual mileage distribution for HDDV.
13038      C
13039      C       DO 10 JDX = 1, 20
13040      C       AMAR(JDX,7) = (C2BDRG(KDX)*C2BDVM(JDX) +
13041      C       * LHDRG(KDX)*LHDVM(JDX) + MHDRG(KDX)*MHDVM(JDX) +
13042      C       * HHDRG(KDX)*HHDMV(JDX)) / (C2BDRG(KDX) + LHDRG(KDX) +
13043      C       * MHDRG(KDX) + HHDRG(KDX))
13044      C   10 CONTINUE
13045      C
13046      C   Set flag so that model year mileage is recalculated in EFCALX.
13047      C
13048      C       NEWCUM=1
13049      C       RETURN
13050      C       END

```



```

14000      SUBROUTINE TFCALX(INERR)
14001      C
14002      C TFCALX computes the travel factors.
14003      C
14004      C Called by REGMOD.
14005      C
14006      C Calls QUITER.
14007      C
14008      C Input on call:
14009      C
14010      C   parameter list: INERR
14011      C   common blocks:
14012      C   /FLAGS1/ VMFLAG
14013      C   /MYRCAL/ JANMYR,TFMYM
14014      C   /REGSUM/ GSFVCT
14015      C   /SYSCOM/ MAXVEH
14016      C
14017      C Output on return:
14018      C
14019      C   parameter list: INERR
14020      C   common blocks:
14021      C   /MYRCAL/ TF
14022      C   /VMXCOM/ VMTMIX
14023      C
14024      C Local array subscripts:
14025      C
14026      C TFNORM(8) - TFNORM ( IV )
14027      C VCOUNT(8) - VCOUNT ( IV )
14028      C
14029      C Local variable / array dictionary:
14030      C
14031      C   Name      Type      Description
14032      C   -----
14033      C TFNORM      R      for each IV, the sum across its 20 model year window of
14034      C               registrations times mileage accrual rate
14035      C TOTVMT      R      total vmt: used to normalize the default vmt mix
14036      C VCOUNT      R      vehicle count by IV class, scaled by / 10**5; the counts come
14037      C               from 1981 registration data. Note LDGV & LDDV counts are
14038      C               the identical sum of their registrations and ditto with
14039      C               LDGT1 & LDDT. Hence, MOBILE3 needs GSFVCT to split the sums
14040      C               properly. For the other IV, GSFVCT is 1.0 and has no effect.
14041      C
14042      C Notes:
14043      C
14044      C VCOUNT was updated with values carried out to 3 decimal places.
14045      C
14046      C
14047      C   INTEGER TAMFLG,SPDFLG,VMFLAG
14048      C   REAL JANMYR
14049      C
14050      C   COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
14051      C   COMMON /MYRCAL/ XMYM(20,8),JANMYR(20,8),TF(20,8),TFMYM(20,8)
14052      C   COMMON /REGSUM/ GSFVCT(8)
14053      C   COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
14054      C   COMMON /VMXCOM/ VMTMIX(8)
14055      C
14056      C   DIMENSION TFNORM(8),VCOUNT(8)
14057      C

```

Appendix C: MOBILE3 Subroutine TFCALX

June 7, 1984

```

14058      DATA VCOUNT/105.839,18.072,11.506,4.650,105.839,18.072,1.640,5.6/
14059      C
14060      DO 20 IV=1,MAXVEH
14061      TFNORM(IV)=0.0
14062      C
14063      DO 10 JDX=1,20
14064      TFNORM(IV)=TFNORM(IV)+TFMYM(JDX,IV)*JANMYR(JDX,IV)
14065      10 CONTINUE
14066      20 CONTINUE
14067      C
14068      C Calculate normalized VMTMIX only if using default vmt data (VMFLAG = 1).
14069      C
14070      IF (VMFLAG.GT.1) GOTO 50
14071      TOTVMT=0.0
14072      DO 30 IV=1,MAXVEH
14073      VMTMIX(IV)=VCOUNT(IV)*GSFVCT(IV)*TFNORM(IV)
14074      TOTVMT=TOTVMT+VMTMIX(IV)
14075      30 CONTINUE
14076      C
14077      DO 40 IV=1,MAXVEH
14078      VMTMIX(IV)=VMTMIX(IV)/TOTVMT
14079      40 CONTINUE
14080      C
14081      50 DO 70 IV=1,MAXVEH
14082      IF (TFNORM(IV).LE.0.0.AND.VMTMIX(IV).GT.0.)
14083      * CALL QUITER(0.,IV,48,INERR)
14084      IF (TFNORM(IV).LE.0.) TFNORM(IV)=1.
14085      C
14086      DO 60 JDX=1,20
14087      IDX=21-JDX
14088      TF(IDX,IV)=(TFMYM(JDX,IV)*JANMYR(JDX,IV))/TFNORM(IV)
14089      60 CONTINUE
14090      70 CONTINUE
14091      C
14092      RETURN
14093      END

```

```

15000      SUBROUTINE EFCALX(ICY,INERR)
15001      C
15002      C EFCALX computes composite emission factors.
15003      C
15004      C Called by MAIN.
15005      C
15006      C Calls BEF, BEFIDL, BIGCFX, CCEVRT, GETCUM, IERPTR, IEXMPT, IGSFPT, QUITER,
15007      C      and TAMPER.
15008      C
15009      C Input on call:
15010      C
15011      C      parameter list: ICY,INERR
15012      C      common blocks:
15013      C      /CUMCOM/ CUMMIL
15014      C      /FLAGS2/ NEWFLG
15015      C      /GSFCOM/ GSFRAC
15016      C      /MYRCAL/ TF
15017      C      /MYRSV/ NEWCUM
15018      C      /REGCOM/ IREJN,ALT
15019      C      /SYSCOM/ MAXVEH,MAXPOL
15020      C      /VMXCOM/ VMTMIX
15021      C
15022      C Output on return:
15023      C
15024      C      parameter list: INERR
15025      C      common blocks:
15026      C      /RESULT/ EFFTP,WFTP,EFEVAP,EFIDLE,WIDLE
15027      C
15028      C Local array subscripts:
15029      C
15030      C SALHCF(20,3,8,2) - SALHCF ( IDX, IP, IV, IR )
15031      C
15032      C Local variable / array dictionary:
15033      C
15034      C      Name      Type      Description
15035      C      ----      -
15036      C COMPCC      R      composite evaporative & crankcase emission factor for IDX
15037      C COMPEF      R      composite emission factor for IDX: summed across IDX to get
15038      C      EFFTP for the given IP & IV
15039      C IDLFAC      R      idle emission factor for IDX: summed across IDX to get
15040      C      EFIDLE for the given IP & IV
15041      C IGER        I      model year group pointer from IERPTR; used to index basic
15042      C      and idle emission rate arrays
15043      C JREJN        I      = IREJN = region code, except IREJN = 3 (interpolation)
15044      C      & ALT < 1500 => JREJN = 1, & ALT >= 1500 => JREJN not used
15045      C MY          I      see parameter dictionary
15046      C SALHCF      R      see parameter dictionary
15047      C VMLDGT      R      sum of vmt for LDGT1 and LDGT2 (= X23 in MOBILE2)
15048      C VMTAGE      R      see parameter dictionary
15049      C
15050      C Notes:
15051      C
15052      C CFRET becomes SALHCF, losing operating mode and temperature correction
15053      C factor components to OMTCF. IDX is now passed to CCEVRT and BEF, in order
15054      C to index the my dependent correction factors applied in those subs: TAMEVP,
15055      C OMTCF, and OMTTAM.
15056      C
15057      C The methane offset model was encoded. This caused the removal

```

```

15058 C of all methane factors from EFCALX; namely common block BEFGCM,
15059 C IEX, IEXMPT, EXMETH, and EXMVAL. The methane calculations
15060 C are now performed in BIGCFX, BEF, and BEFIDL.
15061 C
15062 C The flag "INITFL" was changed to "NEWCUM". This flag is
15063 C set to 1 whenever the cumulative model year mileage needs
15064 C to be recalculated (whenever HDDMYM is called).
15065 C
15066 C
15067 C     INTEGER ALHFLG,ATPFLG
15068 C     REAL JULMYR,JANMYR
15069 C
15070 C     COMMON /CUMCOM/ CUMMIL (20,8)
15071 C     COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
15072 C     COMMON /GSFCOM/ MAXGSF,GSFRAC (22,8,2),MYGSF (22,8,2)
15073 C     COMMON /MYRCAL/ XMYM (20,8),JANMYR (20,8),TF (20,8),TFMYM (20,8)
15074 C     COMMON /MYRSAV/ AMAR (20,8),JULMYR (20,8),NEWCUM
15075 C     COMMON /REGCOM/ IREJN,ALT
15076 C     COMMON /RESULT/ EFFTP (3,9),WFTP (3),EFEVAP (9),EFIDLE (3,9),WIDLE (3)
15077 C     COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
15078 C     COMMON /VMXCOM/ VMTMIX (8)
15079 C
15080 C     REAL IDLFAC
15081 C     DIMENSION SALHCF (20,3,8,2)
15082 C
15083 C     IF (NEWCUM.NE.0) CALL GETCUM
15084 C     NEWCUM=0
15085 C
15086 C Setup for composite light duty gas truck.
15087 C
15088 C     VMLDGT=VMTMIX (2)+VMTMIX (3)
15089 C     IF (VMLDGT.EQ.0.) VMLDGT=1.
15090 C
15091 C Calculate this scenario's tampering effects.
15092 C
15093 C     CALL TAMPER (ICY)
15094 C
15095 C     IR=IREJN
15096 C     IF (IR.NE.3) GOTO 10
15097 C     IR=1
15098 C     IF (ALT.GE.4000.) IR=2
15099 C
15100 C Determine whether the region needs speed, temperature, altitude, etc.
15101 C correction factors for one or two regions. Two regions are needed
15102 C whenever the program performs an interpolation between two regions.
15103 C
15104 C     10 IF (IREJN.EQ.3.AND.ALT.GE.1500.) GOTO 15
15105 C         JREJN=IREJN
15106 C         IF (IREJN.EQ.3.AND.ALT.LT.1500.) JREJN=1
15107 C         CALL BIGCFX (ICY,JREJN,SALHCF (1,1,1,1))
15108 C         GOTO 20
15109 C
15110 C Region is 3 (interpolation between high and low altitude).
15111 C
15112 C     15 CALL BIGCFX (ICY,1,SALHCF (1,1,1,1))
15113 C         CALL BIGCFX (ICY,2,SALHCF (1,1,1,2))
15114 C
15115 C     20 DO 90 IP=1,MAXPOL

```



```

15116      WFTP(IP)=0.0
15117      WIDLE(IP)=0.0
15118      EFFTP(IP,9)=0.0
15119      EFIDLE(IP,9)=0.0
15120      IF(IP.EQ.1) EFEVAP(9)=0.0
15121      C
15122      DO 80 IV=1,MAXVEH
15123      EFFTP(IP,IV)=0.0
15124      EFIDLE(IP,IV)=0.0
15125      IF(IP.EQ.1) EFEVAP(IV)=0.0
15126      IF(VMTMIX(IV).EQ.0.) GOTO 80
15127      C
15128      DO 50 IDX=1,20
15129      C
15130      IF(TF(IDX,IV).LE.0.) GOTO 50
15131      C
15132      C Initialize emissions to zero.
15133      C
15134      COMPCC=0.0
15135      COMPEF=0.0
15136      IDLFAC=0.0
15137      C
15138      JDX=21-IDX
15139      VMTAGE=CUMMIL(JDX,IV)/10000.
15140      MY=ICY+IDX-20
15141      C
15142      C These up to 20 calls to IGSFPT (only the last is used, after exiting the
15143      C IDX loop) only make sense if it is possible for TF(20,IV) = 0.0 => either
15144      C treat as here, or have JDX loop after 370 search for last nonzero TF and
15145      C call IGSFPT once at that point.
15146      C
15147      IGS=IGSFPT(MY,IV,IR)
15148      C
15149      C Determine whether the composite emission requires an interpolation
15150      C between two regions.
15151      C
15152      IF(IREJN.EQ.3.AND.ALT.GE.1500.) GOTO 30
15153      C
15154      C The composite emission calculation does not require an
15155      C interpolation between two regions.
15156      C
15157      IF(IP.EQ.1) COMPCC=CCEVRT(MY,IDX,IV,JREJN)*TF(IDX,IV)
15158      IGER=IERPTR(MY,IP,IV,JREJN)
15159      COMPEF=(BEF(MY,IDX,ICY,IGER,IP,IV,JREJN,VMTAGE)
15160      *      *SALHCF(IDX,IP,IV,1))*TF(IDX,IV)+COMPCC
15161      C
15162      C Compute idle emissions.
15163      C
15164      IDLFAC=BEFIDL(IGER,IP,IV,JREJN,VMTAGE)*TF(IDX,IV)
15165      GOTO 40
15166      C
15167      C Once the evaluated altitude methodology is finalized, the procedure
15168      C will be put here. Note that for entered altitudes < 1500. FT. that no
15169      C interpolation is planned (for now): the run is treated as a low altitude
15170      C region run and execution is continued accordingly. For altitudes >= 1500.
15171      C ft., however, an error message is written out and execution is aborted for
15172      C that scenario.
15173      C

```

```

15174      30 CALL QUITER(ALT,0,83,INERR)
15175      GOTO 99
15176      C
15177      40 EFFTP(IP,IV)=EFFTP(IP,IV)+COMPEF
15178      EFIDLE(IP,IV)=EFIDLE(IP,IV)+IDLFACT
15179      IF(IP.EQ.1) EFEVAP(IV)=EFEVAP(IV)+COMPCC
15180      50 CONTINUE
15181      C
15182      C Sales fractions exceed 0.0 for all non-California heavy duty vehicle groups
15183      C
15184      IF(IV.EQ.4.OR.IV.EQ.7) GOTO 60
15185      IF(EFFTP(IP,IV).GT.0.0.AND.GSFRAC(IGS,IV,IR).EQ.0.)
15186      *   CALL QUITER(0.,IV,67,INERR)
15187      60 IF(EFFTP(IP,IV).LE.0.) CALL QUITER(0.,IV,68,INERR)
15188      C
15189      C NEWFLG test added but could be better.
15190      C E.g., check 20 yr span for use/non-use of NEWFLG and err-out only
15191      C on non-use of alternate equations, etc.
15192      C
15193      IF(IV.EQ.4.OR.IV.EQ.7) GOTO 70
15194      IF(NEWFLG.EQ.1.AND.EFIDLE(IP,IV).GT.0.
15195      *   .AND.GSFRAC(IGS,IV,IR).EQ.0.)
15196      *   CALL QUITER(0.,IV,69,INERR)
15197      70 IF(NEWFLG.EQ.1.AND.EFIDLE(IP,IV).LE.0.)
15198      *   CALL QUITER(0.,IV,70,INERR)
15199      C
15200      WFTP(IP)=WFTP(IP)+(EFFTP(IP,IV)*VMTMIX(IV))
15201      WIDLE(IP)=WIDLE(IP)+(EFIDLE(IP,IV)*VMTMIX(IV))
15202      80 CONTINUE
15203      C
15204      C Assign composite light duty gas truck emission factor.
15205      C
15206      IF(EFFTP(IP,2).GT.0.0.AND.EFFTP(IP,3).GT.0.) EFFTP(IP,9)=
15207      *   (EFFTP(IP,2)*VMTMIX(2)+EFFTP(IP,3)*VMTMIX(3))/VMLDGT
15208      IF(EFIDLE(IP,2).GT.0.0.AND.EFIDLE(IP,3).GT.0.) EFIDLE(IP,9)=
15209      *   (EFIDLE(IP,2)*VMTMIX(2)+EFIDLE(IP,3)*VMTMIX(3))/VMLDGT
15210      IF(IP.EQ.1.AND.EFEVAP(2).GT.0.0.AND.EFEVAP(3).GT.0.)
15211      *   EFEVAP(9)=(EFEVAP(2)*VMTMIX(2)+EFEVAP(3)*VMTMIX(3))/VMLDGT
15212      90 CONTINUE
15213      C
15214      99 RETURN
15215      END

```

```

16000      SUBROUTINE GETCUM
16001      C
16002      C   GETCUM computes average January 1 fleet cumulative mileages.
16003      C
16004      C   Called by EFCALX.
16005      C
16006      C   Input on call:
16007      C
16008      C       common blocks:
16009      C       /MYRCAL/ XMYM
16010      C       /SYSCOM/ MAXVEH
16011      C
16012      C   Output on return:
16013      C
16014      C       common block: /CUMCOM/ CUMMIL
16015      C
16016      C
16017      C       REAL JANMYR
16018      C
16019      C       COMMON /CUMCOM/ CUMMIL (20,8)
16020      C       COMMON /MYRCAL/ XMYM (20,8), JANMYR (20,8), TF (20,8), TFMYM (20,8)
16021      C       COMMON /SYSCOM/ MAXVEH, MAXLTW, MAXPOL, MAXREG, INITPR
16022      C
16023      C       DO 10 IV=1,MAXVEH
16024      C       CUMMIL (1,IV)=XMYM (1,IV)*100000.
16025      C
16026      C       DO 10 JDX=2,20
16027      C       CUMMIL (JDX,IV)=XMYM (JDX,IV)*100000.+CUMMIL (JDX-1,IV)
16028      C   10 CONTINUE
16029      C
16030      C       RETURN
16031      C       END

```

```

17000      SUBROUTINE TAMPER(ICY)
17001      C
17002      C  TAMPER computes tampering effects in grams/mile on bag 1, 2 & 3 HC, CO,
17003      C  & NOX and on hotsoak, diurnal & crankcase HC.
17004      C
17005      C  Called by EFCALX.
17006      C
17007      C  Calls BAGEME, DISRAT, EFFGRP, EMIRAT and EVPEME.
17008      C
17009      C  Input on call:
17010      C
17011      C    parameter list: ICY
17012      C    common blocks:
17013      C    /ATPPAR/ LAPSY,LAPIST,LAPLST,LVTFLG
17014      C    /FLAGS2/ IMFLAG
17015      C    /IMPAR1/ ICYIM,MODYR1,MODYR2
17016      C    /IMPAR2/ ILDT
17017      C
17018      C  Output on return:
17019      C
17020      C    common blocks:
17021      C    /LOOKUP/ IVTAM
17022      C    /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IMDXY,KINK
17023      C
17024      C  Local array subscripts:
17025      C
17026      C  IMIV(4,2) - IMIV ( ILDT, IVTAM-1 )
17027      C
17028      C  Local variable / array dictionary:
17029      C
17030      C  Name      Type      Description
17031      C  -----
17032      C  IMIV      I          table showing whether or not LDGT1 and/or LDGT2
17033      C                      are covered by the selected I/M program
17034      C  IMDX1      I          IDX order pointer to first model year covered by I/M program
17035      C  IMDX2      I          IDX order pointer to last model year covered by I/M program
17036      C  IMCASE     I          flag relating run's I/M program to scenario's calendar year
17037      C                      1 = no I/M for ICY
17038      C                      2 = I/M for at least a subset of ICY's IVTAM and IDX
17039      C  IMVEH      I          flag relating run's I/M program to tampering vehicle class
17040      C                      1 = no I/M for this IVTAM
17041      C                      2 = I/M for at least a subset of IVTAM's IDX (19 year
17042      C                      window)
17043      C  IM          I          flag relating run's I/M program to model year pointed to by
17044      C                      IDX:
17045      C                      1 = no I/M for this IDX
17046      C                      2 = I/M for this IDX, given ICY, IVTAM & I/M parameters
17047      C                      IM is passed as a parameter to DISRAT.
17048      C  LDX1ST     I          JDX order pointer to first model year covered by ATP
17049      C  LDXLST     I          JDX order pointer to last model year covered by ATP
17050      C  LMYR       I          flag relating model year to ATP parameters
17051      C                      1 = model year not covered by an ATP
17052      C                      2 = JDX is covered by an ATP (but IVTAM may not be,
17053      C                      hence, check for inclusion to set LMYRVT)
17054      C
17055      C  Notes:
17056      C
17057      C  TAMPER is a new subprogram (added for MOBILE3).

```



```

17058 C
17059 C
17060 C      INTEGER ALHFLG,ATPFLG
17061 C
17062 C      DIMENSION IMIV(4,2)
17063 C
17064 C      COMMON /ATPPAR/ LAPSY,LAPIST,LAPLST,LVTFLG(4),NLAT,ATNAME(20,9)
17065 C      COMMON /FLAGS2/ MYMRF,NEWFLG,IMFLAG,ALHFLG,ATPFLG
17066 C      COMMON /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
17067 C      COMMON /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME(20,9)
17068 C      COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
17069 C      COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
17070 C
17071 C      DATA IMIV/1,2,1,2,1,1,2,2/
17072 C
17073 C      Relate start year of anti-tampering program (ATP) and 1st and last model
17074 C      years covered to calendar year. Put them in JDX order. For example:
17075 C
17076 C      ICY = LAPSY => LDXSY = 1
17077 C      ICY = LAPSY + 1 => LDXSY = 2
17078 C      .
17079 C      .
17080 C      ICY = LAPSY + 19 => LDXSY = 20
17081 C
17082 C      JDX order is used because these values are used to access the JDX ordered
17083 C      CUMMIL. Note that LDXSY <= 0 => ICY < LAPSY => no ATP was in effect during
17084 C      any part of the calendar year's 20 model year window.
17085 C
17086 C      The ATP has to be in effect at least 1 year prior to ICY for it to affect
17087 C      ICY's emissions. The mileage accumulated through LAPSY all goes to the no
17088 C      program case.
17089 C
17090 C      Only calculate these values once per scenario => compute them here before
17091 C      the tamper loops begin.
17092 C
17093 C      LDXSY=ICY-LAPSY+1
17094 C      LDXIST=ICY-LAPIST+1
17095 C      LDXLST=ICY-LAPLST+1
17096 C
17097 C      Decide whether to use "No I/M" (IM=1) or "I/M" (IM=2) ZMLTAM and DRTAM:
17098 C
17099 C      First relate start and end model years of I/M program to calendar year.
17100 C      IMDX1 & IMDX2 are in IDX order (2 = my 19 to 20 = my 1 = ICY).
17101 C
17102 C      IMDX1=MODYR1-ICY+20
17103 C      IMDX2=MODYR2-ICY+20
17104 C
17105 C      Now assume I/M program rates do apply, unless any of the non-I/M program
17106 C      year conditions are met.
17107 C
17108 C      IMCASE=2
17109 C      IF (IMFLAG.EQ.1.OR.ICY.LE.ICYIM.OR.ICY.LE.MODYR1) IMCASE=1
17110 C
17111 C      Relate I/M start year to calendar year, using JDX ordering. This pointer
17112 C      will be used within IDX loop to set kinked tampering rate curves flag.
17113 C
17114 C      IMDXSY=ICY-ICYIM+1
17115 C

```

Appendix C: MOBILE3 Subroutine TAMPER

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```

17116 C For each tampering vehicle type and each model year in the 19 year window
17117 C from ICY-18 thru ICY (20+ year case is always zeroed), compute the bag and
17118 C evaporative tampering offsets.
17119 C
17120 C DO 40 IVTAM=1,4
17121 C
17122 C If IM program in effect before calendar year, check if vehicle type IVTAM
17123 C is covered:
17124 C
17125 C IF (IMCASE.EQ.1) IMVEH=1
17126 C IF (IMCASE.EQ.2.AND.IVTAM.EQ.1) IMVEH=2
17127 C IF (IMCASE.EQ.2.AND.(IVTAM.EQ.2.OR.IVTAM.EQ.3))
17128 C 1 IMVEH=IMIV(ILDT,IVTAM-1)
17129 C IF (IVTAM.EQ.4) IMVEH=1
17130 C
17131 C DO 30 IDX=2,20
17132 C
17133 C MY pointer info using IDX & ICY may be done here, before sub calls.
17134 C
17135 C Identify this loop's model year for use in IGDPTR lookups.
17136 C
17137 C MY=ICY-(20-IDX)
17138 C
17139 C Assign the reverse order (ICY -> 1, increases with age) my index for use in
17140 C apportioning mileage weights.
17141 C
17142 C JDX=21-IDX
17143 C
17144 C Reset (turn_off) the ATP my range switch. Turn on if there is an ATP
17145 C program, it starts before the calendar year, the model year JDX is in the
17146 C affected range and the vehicle type has been selected by the user for
17147 C coverage.
17148 C
17149 C LMYRVT = 1 => switch is off. ATP not a factor in my JDX's tampering
17150 C LMYRVT = 2 => switch is ON. ATP is a factor in my JDX's tampering
17151 C
17152 C Note: ATPFLG = 1 => LPSY = 2020 => LDXSY < 1 => 1st 2 criteria can be
17153 C checked using LDXSY.
17154 C
17155 C LMYR=1
17156 C LMYRVT=1
17157 C IF (LDXSY.GT.1.AND.LDX1ST.GE.JDX.AND.JDX.GE.LDXLST) LMYR=2
17158 C IF (LMYR.EQ.2.AND.LVTFLG(IVTAM).EQ.2) LMYRVT=2
17159 C
17160 C Check if model year IDX is included in the I/M program:
17161 C
17162 C IM=2
17163 C IF (IMVEH.EQ.1) IM=1
17164 C IF (IDX.LT.IMDX1.OR.IDX.GT.IMDX2) IM=1
17165 C
17166 C Set kinked disablement rate curves flag.
17167 C
17168 C KINK=1
17169 C IF (IM.EQ.2.AND.JDX.GT.IMDXSY) KINK=2
17170 C
17171 C Figure the base tampering rates for both exhaust and non-exhaust emissions.
17172 C
17173 C CALL DISRAT(IM)

```

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```
17174 C
17175 C The next 3 subroutines compute the tampering bag emission additives.
17176 C
17177 CALL EFFGRP
17178 CALL EMIRAT
17179 CALL BAGEME
17180 C
17181 C The non-exhaust HC emission additives calculation procedure is much
17182 C simpler because there are no overlaps. EVPEME does all the work.
17183 C
17184 CALL EVPEME
17185 C
17186 30 CONTINUE
17187 40 CONTINUE
17188 C
17189 RETURN
17190 END
```

```

18000      SUBROUTINE DISRAT(IM)
18001      C
18002      C DISRAT computes the disablement rates for the given vehicle type, model
18003      C year and mileage distribution. If the start year of an anti-tampering
18004      C program precedes the calendar year, then 2 sets of rates are produced.
18005      C The first set covers the period up through the start year and the second
18006      C set the period since then.
18007      C
18008      C Called by TAMPER.
18009      C
18010      C Calls AMIN1 and AMAX1, standard FORTRAN library functions that select the
18011      C minimum and maximum, respectively, of type REAL arguments.
18012      C
18013      C Input on call:
18014      C
18015      C   parameter list: IM
18016      C   common blocks:
18017      C   /BASETR/ ZMLTAM,DRTAM
18018      C   /CUMCOM/ CUMMIL
18019      C   /LOOKUF/ IVTAM
18020      C   /MYCODE/ JDX,LDXSY,LMYRVT,IMDXSY,KINK
18021      C
18022      C Output on return:
18023      C
18024      C   common blocks:
18025      C   /BASETR/ BTR
18026      C   /MYCODE/ IAY
18027      C
18028      C Local array subscripts:
18029      C
18030      C CUMST(2) - CUMST ( IAY )
18031      C
18032      C Local variable / array dictionary:
18033      C
18034      C   Name      Type      Description
18035      C   -----
18036      C CUMST      R          mileage accumulated segments for straight line subcases
18037      C                      (no kink from I/M startup):
18038      C                      1 = MY through ICY (1.1/2) or ICY (2.1/2)
18039      C                      2 = LAPSY (2.1/2) or MY (3.1/2) through ICY
18040      C
18041      C Kinked rate lines mileage accumulated segments:
18042      C
18043      C CUMNAY      R          from MY through ICYIM (when ICYIM precedes LAPSY)
18044      C CUMIAY      R          after ICYIM through LAPSY
18045      C CUMNIM      R          from MY through ICYIM (when ICYIM follows LAPSY)
18046      C CUMIM       R          after ICYIM through ICY
18047      C CUMJDX      R          from MY through ICY
18048      C
18049      C Kinked rate lines tampering rates, given mileage:
18050      C
18051      C TRNIM       R          non-I/M segment times non-I/M slope + non-I/M base
18052      C TRNIMI      R          non-I/M segment times I/M slope + I/M base
18053      C TRCYST      R          lower of non-I/M & I/M straight line rates at calendar year
18054      C TRCY       R          rate at calendar year to be used
18055      C CYRNIM      R          MY to ICY mileage, all times non-I/M deterioration rate
18056      C CYRIM       R          MY to ICY mileage, all times I/M deterioration rate
18057      C

```


Appendix C: MOBILE3 Subroutine DISRAT

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```

18058 C TRAYST R MY through LAPSY, when I/M kink is in this segment,
18059 C evaluated at minimum of non-I/M & I/M rates at LAPSY
18060 C TRAY R MY through LAPSY, when I/M kink is in this segment
18061 C AYRNIM R MY through LAPSY, all times non-I/M DRTAM
18062 C AYRIM R MY through LAPSY, all times I/M DRTAM
18063 C
18064 C Notes:
18065 C
18066 C DISRAT is a new subprogram (added for MOBILE3).
18067 C
18068 C
18069 C DIMENSION CUMST(2)
18070 C
18071 C COMMON /BASETR/ BTR(7,2),ZMLTAM(7,2,4),DRTAM(7,2,4)
18072 C COMMON /CUMCOM/ CUMMIL(20,8)
18073 C COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
18074 C COMMON /MYCODE/ MY,IDX,JDX,LDSY,LMYRVT,IAY,IMDSY,KINK
18075 C
18076 C Calculate mileage accumulated up through start year of anti-tampering
18077 C program (ATP) and mileage since. Then compute the base tampering rates.
18078 C There are 3 cases:
18079 C
18080 C (1) There is no ATP or the ATP is not in effect until the calendar year
18081 C or later or the model year (JDX) being checked on this call is not in
18082 C the range included in the ATP or the VT is not covered by the ATP:
18083 C Check if ATP-applies switch is on. Off => all mileage is "previous"
18084 C (to any ATP) => IAY = 1 for all tampering.
18085 C
18086 C IF(LMYRVT.EQ.2) GOTO 26
18087 C IF(KINK.EQ.2) GOTO 14
18088 C
18089 C (1.1) Straight (all mileage on non-I/M) rate lines and
18090 C (1.2) Straight (all mileage on I/M) rate lines subcases.
18091 C
18092 C CUMST(1)=CUMMIL(JDX,IVTAM)*.0001
18093 C CUMST(2)=0.0
18094 C DO 10 ID=1,7
18095 C BTR(ID,1)=ZMLTAM(ID,IM,IVTAM)+DRTAM(ID,IM,IVTAM)*CUMST(1)
18096 C BTR(ID,2)=0.0
18097 C 10 CONTINUE
18098 C GOTO 80
18099 C
18100 C (1.3) Kinked (non-I/M ZMLTAM, first mileage segment at non-I/M rate and
18101 C second at I/M rate) lines subcase.
18102 C
18103 C 14 CUMJDX=CUMMIL(JDX,IVTAM)*.0001
18104 C CUMNIM=CUMMIL(JDX-IMDSY+1,IVTAM)*.0001
18105 C CUMIM=CUMJDX-CUMNIM
18106 C
18107 C DO 22 ID=1,7
18108 C TRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMNIM
18109 C TRCY=TRNIM+DRTAM(ID,2,IVTAM)*CUMIM
18110 C IF(ZMLTAM(ID,2,IVTAM).LE.ZMLTAM(ID,1,IVTAM).AND.TRNIM.GT.0) GOTO 18
18111 C
18112 C CYRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMJDX
18113 C CYRIM=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMJDX
18114 C TRCYST=AMIN1(CYRNIM,CYRIM)
18115 C TRCY=AMAX1(TRCY,TRCYST)

```

Appendix C: MOBILE3 Subroutine DISRAT

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```

18116      TRNIM=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMNIM
18117      IF (TRNIM.LT.O.O.AND.TRNIM.GT.TRNIMI) TRCY=CYRIM
18118  C
18119      18 BTR(ID,1)=TRCY
18120      BTR(ID,2)=0.0
18121      22 CONTINUE
18122      GOTO 80
18123  C
18124  C      (2) There is an ATP and it starts before ICY but at or after my JDX and
18125  C      JDX is in the ATP affected MY range. This case => split mileage into
18126  C      "previous" and overall (= total = "previous" + "subsequent") parts.
18127  C      "Subsequent" category sizes will be computed in subroutine EFFGRP as
18128  C      the difference between the corrected overall and "previous" sizes.
18129  C
18130      26 IF (LDXSY.GT.JDX) GOTO 58
18131      IF (KINK.EQ.2) GOTO 34
18132  C
18133  C      (2.1) Straight non-1/M rate lines and
18134  C      (2.2) Straight 1/M rate lines subcases.
18135  C
18136      CUMST(1)=CUMMIL(JDX-LDXSY+1,IVTAM)*.0001
18137      CUMST(2)=CUMMIL(JDX,IVTAM)*.0001
18138      DO 30 ID=1,7
18139      BTR(ID,1)=ZMLTAM(ID,IM,IVTAM)+DRTAM(ID,IM,IVTAM)*CUMST(1)
18140      BTR(ID,2)=ZMLTAM(ID,IM,IVTAM)+DRTAM(ID,IM,IVTAM)*CUMST(2)
18141      30 CONTINUE
18142      GOTO 80
18143  C
18144  C      (2.3) Kinked rate lines subcase.
18145  C
18146      34 IF (IMDXSY.GT.LDXSY) GOTO 46
18147  C
18148  C      (2.3.1) Previous (to ATP start year) mileage all on non-1/M rate line.
18149  C
18150      CUMNAY=CUMMIL(JDX-LDXSY+1,IVTAM)*.0001
18151      CUMJDX=CUMMIL(JDX,IVTAM)*.0001
18152      CUMNIM=CUMMIL(JDX-IMDXSY+1,IVTAM)*.0001
18153      CUMIM=CUMJDX-CUMNIM
18154  C
18155      DO 42 ID=1,7
18156      TRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMNIM
18157      TRCY=TRNIM+DRTAM(ID,2,IVTAM)*CUMIM
18158      IF (ZMLTAM(ID,2,IVTAM).LE.ZMLTAM(ID,1,IVTAM).AND.TRNIM.GT.O) GOTO 38
18159  C
18160      CYRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMJDX
18161      CYRIM=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMJDX
18162      TRCYST=AMIN1(CYRNIM,CYRIM)
18163      TRCY=AMAX1(TRCY,TRCYST)
18164      TRNIMI=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMNIM
18165      IF (TRNIM.LT.O.O.AND.TRNIM.GT.TRNIMI) TRCY=CYRIM
18166  C
18167      38 BTR(ID,1)=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMNAY
18168      BTR(ID,2)=TRCY
18169      42 CONTINUE
18170      GOTO 80
18171  C
18172  C      (2.3.2) Kink is in the "previous" segment.
18173  C

```

```

18174      46 CUMJDX=CUMMIL(JDX,IVTAM)*.0001
18175      CUMNIM=CUMMIL(JDX-IMDXSY+1,IVTAM)*.0001
18176      CUMIAY=CUMMIL(JDX-LDXSY+1,IVTAM)*.0001-CUMNIM
18177      CUMIM=CUMJDX-CUMNIM
18178      C
18179      DO 54 ID=1,7
18180      TRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMNIM
18181      TRAY=TRNIM+DRTAM(ID,2,IVTAM)*CUMIAY
18182      TRCY=TRNIM+DRTAM(ID,2,IVTAM)*CUMIM
18183      IF (ZMLTAM(ID,2,IVTAM).LE.ZMLTAM(ID,1,IVTAM).AND.TRNIM.GT.0) GOTO 50
18184      C
18185      AYRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*(CUMNIM+CUMIAY)
18186      AYRIM=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*(CUMNIM+CUMIAY)
18187      TRAYST=AMIN1(AYRNIM,AYRIM)
18188      TRAY=AMAX1(TRAY,TRAYST)
18189      TRNIMI=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMNIM
18190      IF (TRNIM.LT.0.O.AND.TRNIM.GT.TRNIMI) TRAY=AYRIM
18191      C
18192      CYRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMJDX
18193      CYRIM=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMJDX
18194      TRCYST=AMIN1(CYRNIM,CYRIM)
18195      TRCY=AMAX1(TRCY,TRCYST)
18196      IF (TRNIM.LT.0.O.AND.TRNIM.GT.TRNIMI) TRCY=CYRIM
18197      C
18198      50 BTR(ID,1)=TRAY
18199      BTR(ID,2)=TRCY
18200      54 CONTINUE
18201      GOTO 80
18202      C
18203      C (3) There is an ATP and it starts before the model year and JDX is in the
18204      C ATP affected MY range. All mileage is "subsequent" (to LAPSY) =
18205      C IAY = 2 for all tampering.
18206      C
18207      58 IF (KINK.EQ.2) GOTO 66
18208      C
18209      C (3.1) Straight non-1/M rate lines and
18210      C (3.2) Straight 1/M rate lines subcases.
18211      C
18212      CUMST(1)=0.0
18213      CUMST(2)=CUMMIL(JDX,IVTAM)*.0001
18214      DO 62 ID=1,7
18215      BTR(ID,1)=0.0
18216      BTR(ID,2)=ZMLTAM(ID,1M,IVTAM)+DRTAM(ID,1M,IVTAM)*CUMST(2)
18217      62 CONTINUE
18218      GOTO 80
18219      C
18220      C (3.3) Kinked rate lines subcase.
18221      C
18222      66 CUMJDX=CUMMIL(JDX,IVTAM)*.0001
18223      CUMNIM=CUMMIL(JDX-IMDXSY+1,IVTAM)*.0001
18224      CUMIM=CUMJDX-CUMNIM
18225      C
18226      DO 74 ID=1,7
18227      TRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMNIM
18228      TRCY=TRNIM+DRTAM(ID,2,IVTAM)*CUMIM
18229      IF (ZMLTAM(ID,2,IVTAM).LE.ZMLTAM(ID,1,IVTAM).AND.TRNIM.GT.0) GOTO 70
18230      C
18231      CYRNIM=ZMLTAM(ID,1,IVTAM)+DRTAM(ID,1,IVTAM)*CUMJDX

```

Appendix C: MOBILE3 Subroutine DISRAT

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```

18232      CYRIM=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMJDX
18233      TRCYST=AMINI(CYRNIM,CYRIM)
18234      TRCY=AMAX1(TRCY,TRCYST)
18235      TRNIMI=ZMLTAM(ID,2,IVTAM)+DRTAM(ID,2,IVTAM)*CUMNIM
18236      IF (TRNIM.LT.O.O.AND.TRNIM.GT.TRNIMI) TRCY=CYRIM
18237  C
18238      70 BTR(ID,1)=0.0
18239      BTR(ID,2)=TRCY
18240      74 CONTINUE
18241  C
18242  C Range checks:
18243  C
18244  C (1) Cannot tamper with < 0% or > 100% of the fleet.
18245  C
18246      80 DO 88 ID=1,7
18247      DO 84 IAY=1,2
18248      IF (BTR(ID,IAY).LT.O.O) BTR(ID,IAY)=0.0
18249      IF (BTR(ID,IAY).GT.1.0) BTR(ID,IAY)=1.0
18250      84 CONTINUE
18251      88 CONTINUE
18252  C
18253  C (2) Cannot misfuel > 100% of fleet => partial sums of the 2 types of
18254  C misfueling must be <= 100% (check order specified by EPA):
18255  C Fix BTR(3,1) < BTR(4,1) < BTR(3,2) < BTR(4,2). BTR(3,1) has already
18256  C been checked (and fixed, if necessary) in range check (1).
18257  C
18258      IF ((BTR(4,1)+BTR(3,1)).GT.1.0) BTR(4,1)=1.0-BTR(3,1)
18259      IF ((BTR(3,2)+BTR(4,1)).GT.1.0) BTR(3,2)=1.0-BTR(4,1)
18260      IF ((BTR(4,2)+BTR(3,2)).GT.1.0) BTR(4,2)=1.0-BTR(3,2)
18261  C
18262      RETURN
18263      END

```



```

19000      SUBROUTINE EFFGRP
19001      C
19002      C EFFGRP builds the tampering effects group sizes array. The tampering
19003      C rates from DISRAT are modified to account for technology vs tampering
19004      C types, overlap factors, anti-tampering program effectiveness factors and
19005      C technology group sizes. The output rates are divided into effects groups
19006      C corresponding to the significant emission impact tampering groups.
19007      C
19008      C Called by TAMPER.
19009      C
19010      C Calls ADJ12, ATPEFF, A8T011, C1T07, C8T012, IGDPTR, SETEGS and TECHO.
19011      C
19012      C Input on call:
19013      C
19014      C   common blocks:
19015      C   /EGSCAL/ TGS
19016      C   /LOOKUP/ IVTAM
19017      C   /MYCODE/ JDX,LDXSY,LMYRVT
19018      C   /SIZCAL/ CSIZE
19019      C
19020      C Output on return:
19021      C
19022      C   common blocks:
19023      C   /EGSCAL/ EGS
19024      C   /LOOKUP/ IQG,IPG,JPGD
19025      C   /MYCODE/ IAY
19026      C   /SIZCAL/ TGSUSE,CSAE
19027      C
19028      C Local array subscripts:
19029      C
19030      C CSF1ST(7,2) - CSF1ST ( IC7, IPG )
19031      C
19032      C Local variable / array dictionary:
19033      C
19034      C   Name      Type      Description
19035      C   -----
19036      C CSF1ST    R      category size factor for 1st calculation of CSIZE
19037      C
19038      C Notes:
19039      C
19040      C EFFGRP is a new subprogram (added for MOBILE3).
19041      C
19042      C
19043      C   DIMENSION CSF1ST(7,2)
19044      C
19045      C   COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
19046      C   COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
19047      C   COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
19048      C   COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
19049      C
19050      C   DATA CSF1ST/.066,.111,.105,.238,.032,.441,.050,
19051      C   2          .027,.063,.055,.307,.013,.372,.070/
19052      C
19053      C Zero out tampering effects group sizes (EGS) array.
19054      C
19055      C   DO 20 IPG=1,2
19056      C   DO 10 IEG=1,7
19057      C   EGS(IEG,IPG)=0.0

```

```

19058      10 CONTINUE
19059      20 CONTINUE
19060      C
19061      C Add in each equipment (technology) group's before and after anti-tampering
19062      C program (ATP) start year contribution to each EGS category for each
19063      C pollutant group.
19064      C
19065          DO 80 IPG=1,2
19066      C
19067      C Set ATR pointer for 1st 3 sizes: HC/CO => use AIRS, NOX => use EGRS.
19068      C
19069          IF (IPG.EQ.1) JPGD=1
19070          IF (IPG.EQ.2) JPGD=5
19071      C
19072          DO 70 IQG=1,6
19073      C
19074      C Lookup technology group size to be used on this pass.
19075      C
19076          IG1=IGDPTR(1)
19077          TGSUSE=TGS(IG1,IQG,IVTAM)
19078      C
19079      C Check how technology type & size affect tampering rates.
19080      C
19081          CALL TECHO(670)
19082      C
19083      C HC & CO effects category sizes are identical => only 2 pollutant passes.
19084      C
19085          DO 65 IAY=1,2
19086      C
19087      C Skip to end of loop if no mileage accumulated (hence no tampering)
19088      C for the pre/post ATP year case being checked.
19089      C
19090          IF (IAY.EQ.1.AND.LMYRVT.EQ.2.AND.LDXSY.GT.JDX) GOTO 65
19091          IF (IAY.EQ.2.AND.LMYRVT.EQ.1) GOTO 65
19092      C
19093          CALL C1T07(CSF1ST(1,IPG))
19094          CALL C8T012
19095      C
19096      C The first calculation pass can produce negative sizes for the no
19097      C overlap (8-11) and the no effects (12) categories. Correct these
19098      C by calling A8T011 and ADJ12, respectively.
19099      C
19100          DO 30 IC=8,11
19101          IF (CSIZE(IC,IAY).LT.0) CALL A8T011(IC)
19102      30 CONTINUE
19103          IF (CSIZE(12,IAY).LT.0) CALL ADJ12(CSF1ST)
19104      C
19105      C "Subsequent" (to ATP start year) pass + have split mileage case =>
19106      C "subsequent" category size = overall size - "previous" size
19107      C
19108      C I.e., in the split mileage case, the program computes the previous to
19109      C ATP start year and overall values up to this point. After this next
19110      C loop assigns the subsequent values as residuals, the program works
19111      C directly with the previous and subsequent cases in the calls to ATPEFF
19112      C and SETEGS.
19113      C
19114          IF (IAY.EQ.1.OR.LMYRVT.EQ.1.OR.LDXSY.GT.JDX) GOTO 50
19115          DO 40 IC=1,12

```

```

19116      CSIZE(IC,2)=CSIZE(IC,2)-CSIZE(IC,1)
19117      40 CONTINUE
19118      C
19119      C Check if ATP covers this MY. Yes => apply effectiveness factors to the
19120      C category sizes.
19121      C
19122      50 IF(LMYRVT.EQ.2) CALL ATPEFF(&60)
19123      C
19124      C Otherwise just shift IAY's sizes to CSAE without modification.
19125      C
19126      DO 55 IC=1,12
19127      CSAE(IC)=CSIZE(IC,IAY)
19128      55 CONTINUE
19129      C
19130      C Set the effects group sizes.
19131      C
19132      60 CALL SETEGS
19133      C
19134      65 CONTINUE
19135      70 CONTINUE
19136      80 CONTINUE
19137      C
19138      RETURN
19139      END

```

```

20000      SUBROUTINE EMIRAT
20001      C
20002      C  EMIRAT computes / assigns emission impact rates for the tampering effects
20003      C  groups.
20004      C
20005      C  Called by TAMPER.
20006      C
20007      C  Calls IGDPTR.
20008      C
20009      C  Input on call:
20010      C
20011      C      common blocks:
20012      C      /EGSCAL/ TGS
20013      C      /EMECAL/ EM3W,EMOX,EMEGR
20014      C      /LOOKUP/ IVTAM
20015      C
20016      C  Output on return:
20017      C
20018      C      common blocks:
20019      C      /EMECAL/ EMI
20020      C      /LOOKUP/ IQG
20021      C
20022      C  Local variable dictionary:
20023      C
20024      C      Name      Type      Description
20025      C      ----      -
20026      C  POX          R      percentage of vehicles equipped with oxidation catalysts
20027      C  POXN          R      POX normalized to ox cat equipped / all cat equipped
20028      C  P3W           R      percentage of vehicles equipped with 3-way catalysts
20029      C  P3WN          R      P3W normalized to 3-way cat equipped / all cat equipped
20030      C  TK            R      percentage of fleet equipped with catalysts
20031      C
20032      C  Notes:
20033      C
20034      C  EMIRAT is a new subprogram (added for MOBILE3).
20035      C
20036      C
20037      C      COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
20038      C      COMMON /EMECAL/ EM3W(3,3,3),EMOX(3,3,3),EMEGR(4,3,3),EMI(7,3,3)
20039      C      COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
20040      C
20041      C  Compute the percentage of vehicles equipped with 3-way and oxidation
20042      C  catalysts.
20043      C
20044      C      P3W=0.0
20045      C      DO 10 IQG=5,6
20046      C      IG1=IGDPTR(1)
20047      C      P3W=P3W+TGS(IG1,IQG,IVTAM)
20048      C  10 CONTINUE
20049      C
20050      C      POX=0.0
20051      C      DO 20 IQG=2,3
20052      C      IG1=IGDPTR(1)
20053      C      POX=POX+TGS(IG1,IQG,IVTAM)
20054      C  20 CONTINUE
20055      C      POX=POX-P3W
20056      C
20057      C  Normalize the percentages in order to use them as weights.

```



```
20058 C
20059     TK=P3W+POX
20060 C
20061 C   Avoid divide by zero runtime error.
20062 C
20063     IF (TK.EQ.0.0) TK=1.0
20064     P3WN=P3W/TK
20065     POXN=POX/TK
20066 C
20067 C   Compute / assign emissions impact for each bag for each pollutant.
20068 C
20069     DO 50 IP=1,3
20070     DO 40 IB=1,3
20071 C
20072 C   Air pump disablement (air pump only equipped) emission impact is the
20073 C   oxidation catalyst emission for the given bag and pollutant. These
20074 C   numbers are constant with respect to model year and vehicle type and
20075 C   therefore are hardcoded in BLOCK DATA into EMI(1,IB,IP). Note that
20076 C   EMI(1,IB,IP) = EMOX(1,IB,IP) for all IB,IP. If EMI for air pump
20077 C   disablement becomes variable in MOBILE4+, the code will be inserted here.
20078 C
20079 C   Next 3 effects groups use the catalyst type weighted emissions.
20080 C
20081     DO 30 IEG=2,4
20082     IEK=IEG-1
20083     EMI(IEG,IB,IP)=P3WN*EM3W(IEK,IB,IP)+POXN*EMOX(IEK,IB,IP)
20084     30 CONTINUE
20085 C
20086 C   Get EGR only MY/IVI pointer and look up corresponding emission impact.
20087 C
20088     IG2=IGDPTR(2)
20089     EMI(5,IB,IP)=EMEGR(IG2,IB,IP)
20090 C
20091 C   EGR disabled / catalyst removed and EGR disabled / misfueled emissions are
20092 C   a constant function of bag and pollutant. As with group 1, the values are
20093 C   hardcoded in BLOCK DATA into EMI(6,IB,IP) and EMI(7,IB,IP), respectively.
20094 C   Future versions of the model may vary these emissions on some other
20095 C   parameter(s) such as model year and vehicle type, in which case the
20096 C   computation / assignment of values would go here.
20097 C
20098     40 CONTINUE
20099     50 CONTINUE
20100 C
20101     RETURN
20102     END
```

```

21000      SUBROUTINE BAGEME
21001      C
21002      C BAGEME multiplies the effects group sizes times the corresponding
21003      C weighted emission impact rates to get the tampering bag emission effects.
21004      C
21005      C Called by TAMPER.
21006      C
21007      C Input on call:
21008      C
21009      C   common blocks:
21010      C   /EGSCAL/ EGS
21011      C   /EMECAL/ EMI
21012      C   /LOOKUP/ IVTAM
21013      C   /MYCODE/ IDX
21014      C
21015      C Output on return:
21016      C
21017      C   common blocks:
21018      C   /LOOKUP/ IPG
21019      C   /TAMOUT/ TAMBAG
21020      C
21021      C Local variable dictionary:
21022      C
21023      C   Name      Type      Description
21024      C   -----
21025      C EMSUM      R      tampering emission effects sum for given IVTAM, IDX, IP & IB
21026      C
21027      C Notes:
21028      C
21029      C BAGEME is a new subprogram (added for MOBILE3).
21030      C
21031      C
21032      COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
21033      COMMON /EMECAL/ EM3W(3,3,3),EMOX(3,3,3),EMEGR(4,3,3),EMI(7,3,3)
21034      COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
21035      COMMON /MYCODE/ MY,IDX,JDX,LDSY,LMYRVT,IAY,IMDSY,KINK
21036      COMMON /TAMOUT/ TAMBAG(3,3,20,4),TAMEVP(3,20,4)
21037      C
21038      DO 30 IP=1,3
21039      C
21040      C Effects group sizes are identical for HC and CO, but the emissions
21041      C impacts are not.
21042      C
21043      IPG=1
21044      IF (IP.EQ.3) IPG=2
21045      DO 20 IB=1,3
21046      C
21047      EMSUM=0.0
21048      DO 10 IEG=1,7
21049      EMSUM=EMSUM+EGS(IEG,IPG)*EMI(IEG,IB,IP)
21050      10 CONTINUE
21051      TAMBAG(IB,IP,IDX,IVTAM)=EMSUM
21052      C
21053      20 CONTINUE
21054      30 CONTINUE
21055      RETURN
21056      END

```

```

22000      SUBROUTINE EVPEME
22001      C
22002      C EVPEME does the work of EFFGRP, EMIRAT and BAGEME, only to produce the
22003      C evaporative and crankcase HC emission effects. The task is simplified
22004      C into one subroutine because there is no overlap categorization or
22005      C weighting. The appropriate numbers are looked up and multiplied
22006      C together without modification.
22007      C
22008      C Called by TAMPER.
22009      C
22010      C Calls IGDPTR.
22011      C
22012      C Input on call:
22013      C
22014      C   common blocks:
22015      C   /BASETR/ BTR
22016      C   /EVPDAT/ EVPAER, EVPTGS, EVPEMI
22017      C   /LOOKUP/ IVTAM
22018      C   /MYCODE/ IDX, JDX, LDXSY, LMYRVT
22019      C
22020      C Output on return:
22021      C
22022      C   common blocks:
22023      C   /LOOKUP/ IHG
22024      C   /TAMOUT/ TAMEVP
22025      C
22026      C Local variable dictionary:
22027      C
22028      C   Name      Type      Description
22029      C   -----
22030      C   EMPACT    R        emission impact rate for given IVTAM, IH and IG4
22031      C   OTR        R        overall (previous + subsequent my ranges) tampering rate
22032      C   PCTEQP     R        percentage of IVTAM fleet equipped with IHG technology,
22033      C                       given IG3
22034      C
22035      C Notes:
22036      C
22037      C EVPEME is a new subprogram (added for MOBILE3).
22038      C
22039      C
22040      C   COMMON /BASETR/ BTR(7,2), ZMLTAM(7,2,4), DRTAM(7,2,4)
22041      C   COMMON /EVPDAT/ EVPAER(2,2), EVPTGS(3,2,4), EVPEMI(11,3,4)
22042      C   COMMON /LOOKUP/ IVTAM, IQG, IPG, JPGD, IHG
22043      C   COMMON /MYCODE/ MY, IDX, JDX, LDXSY, LMYRVT, IAY, IMDXSY, KINK
22044      C   COMMON /TAMOUT/ TAMBAG(3,3,20,4), TAMEVP(3,20,4)
22045      C
22046      C   DO 10 IH=1,3
22047      C
22048      C Group hot soak and diurnal HC as a single (evap) case when indexing
22049      C base tampering rate, ATP effectiveness rate and technology group size
22050      C arrays. Only the emission impact rates differ.
22051      C
22052      C   IHG=1
22053      C   IF (IH.EQ.3) IHG=2
22054      C   ID=IHG+5
22055      C
22056      C Get the overall tampering rate. As in DISRAT, there are 3 cases:
22057      C

```

Appendix C: MOBILE3 Subroutine EVPEME

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```

22058 C      (1) No ATP or its start year is after ICY or IDX is not in affected my
22059 C      range: use the "previous" base rate without applying the
22060 C      effectiveness rates.
22061 C
22062 C      IF (LMYRVT.EQ.1) OTR=BTR(ID,1)
22063 C
22064 C      (2) There is an ATP and its start year is before IDX and IDX is in the
22065 C      affected my range: use the "subsequent" rate * the effectiveness
22066 C      rate.
22067 C
22068 C      IF (LMYRVT.EQ.2.AND.LDXSY.GT.JDX) OTR=BTR(ID,2)*EVPAER(IHG,2)
22069 C
22070 C      (3) There is an ATP and its start year is at or after IDX but before ICY
22071 C      and IDX is in the affected my range: sum the rates * their
22072 C      corresponding effectiveness rates. Note that in this case, BTR holds
22073 C      the "previous" and overall rates => subtract 1st from 2nd to get the
22074 C      "subsequent" rates.
22075 C
22076 C      IF (LMYRVT.EQ.2.AND.LDXSY.LE.JDX)
22077 C      1 OTR=BTR(ID,1)*EVPAER(IHG,1)+(BTR(ID,2)-BTR(ID,1))*EVPAER(IHG,2)
22078 C
22079 C      Lookup model year group pointers.
22080 C
22081 C      IG3=IGDPTR(3)
22082 C      IG4=IGDPTR(4)
22083 C
22084 C      Lookup and apply the percentage equipped and emission impact factors.
22085 C
22086 C      PCTEQP=EVPTGS(IG3,IHG,IVTAM)
22087 C      EMPACT=EVPEMI(IG4,IH,IVTAM)
22088 C      TAMEVP(IH,IDX,IVTAM)=OTR*PCTEQP*EMPACT
22089 C      10 CONTINUE
22090 C
22091 C      RETURN
22092 C      END

```



```

23000      SUBROUTINE TECHO(*)
23001      C
23002      C TECHO determines whether or not to compute the effects groups for the
23003      C passed in TGSUSE/IQG/IPG values. If the effects loop is to be completed,
23004      C TECHO decides what subset of BTR is to be used.
23005      C
23006      C Called by EFFGRP.
23007      C
23008      C Input on call:
23009      C
23010      C   common blocks:
23011      C   /BASETR/ BTR
23012      C   /LOOKUP/ IQG,IPG
23013      C   /SIZCAL/ TGSUSE
23014      C
23015      C Output on return:
23016      C
23017      C   common blocks:
23018      C   /MYCODE/ IAY
23019      C   /SIZCAL/ ATR
23020      C
23021      C Notes:
23022      C
23023      C TECHO is a new subprogram (added for MOBILE3).
23024      C
23025      C
23026      COMMON /BASETR/ BTR(7,2),ZMLTAM(7,2,4),DRTAM(7,2,4)
23027      COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
23028      COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
23029      COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
23030      C
23031      C If technology size is 0, branch to the end of the IQG loop. If no part
23032      C of the fleet is so equipped, then no tampering effects based on that
23033      C equipment type can occur.
23034      C
23035      IF(TGSUSE.EQ.0) RETURN1
23036      C
23037      C If the technology type does not affect the pollutant group, branch to end
23038      C of IQG loop. Tampering vehicles so equipped will not add to the level of
23039      C the pollutant(s) being emitted.
23040      C
23041      IF(IQG.GE.4.AND.IPG.EQ.1) RETURN1
23042      IF(IQG.LE.3.AND.IPG.EQ.2) RETURN1
23043      C
23044      C Technology size is positive and tampering it affects the pollutant group.
23045      C The effects groups will be calculated. First assign the base rates.
23046      C
23047      DO 20 IAY=1,2
23048      DO 10 ID=1,7
23049      ATR(ID,IAY)=BTR(ID,IAY)
23050      10 CONTINUE
23051      C
23052      C Zero out rate(s) for case(s) where the type tampering cannot occur, given
23053      C the technology type.
23054      C
23055      IF(IQG.EQ.3) ATR(1,IAY)=0.0
23056      IF(IQG.EQ.6) ATR(5,IAY)=0.0
23057      IF(IQG.NE.1.AND.IQG.NE.4) GOTO 20

```

Appendix C: MOBILE3 Subroutine TECHO

June 7, 1984

```
23058      ATR(2,1AY)=0.0
23059      ATR(3,1AY)=0.0
23060      ATR(4,1AY)=0.0
23061      20 CONTINUE
23062      C
23063      RETURN
23064      END
```

```

24000      SUBROUTINE CIT07(CSFUSE)
24001      C
24002      C CIT07 calculates overlap categories 1 to 7 for tampering effects.
24003      C These cover all the allowable overlap combinations of the 4 base tampering
24004      C cases for the bag effects for the given pollutant group.
24005      C
24006      C Called by ADJ12 and EFFGRP.
24007      C
24008      C Input on call:
24009      C
24010      C   parameter list: CSFUSE
24011      C   common blocks:
24012      C   /LOOKUP/ JPGD
24013      C   /MYCODE/ IAY
24014      C   /SIZCAL/ ATR
24015      C
24016      C Output on return:
24017      C
24018      C   common block: /SIZCAL/ CSIZE
24019      C
24020      C Notes:
24021      C
24022      C CIT07 is a new subprogram (added for MOBILE3).
24023      C
24024      C
24025      C   DIMENSION CSFUSE(7)
24026      C
24027      C   COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
24028      C   COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
24029      C   COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
24030      C
24031      C The first 7 category sizes are computed directly from the size coefficient
24032      C and tampering rates.
24033      C
24034      C   DO 10 IC7=1,3
24035      C     CSIZE(IC7,IAY)=CSFUSE(IC7)*ATR(JPGD,IAY)
24036      C   10 CONTINUE
24037      C
24038      C   DO 20 IC7=4,7
24039      C     CSIZE(IC7,IAY)=CSFUSE(IC7)*ATR(2,IAY)
24040      C   20 CONTINUE
24041      C
24042      C   RETURN
24043      C   END

```

```

25000      SUBROUTINE C8T012
25001      C
25002      C C8T012 calculates category sizes 8 to 12 for tampering effects.
25003      C Categories 8 to 11 are the no overlap cases (AIRS only, CATS only, etc.).
25004      C Category 12 is no tampering at all case.
25005      C
25006      C Called by ADJ12, A8T011 and EFFGRP.
25007      C
25008      C Input on call:
25009      C
25010      C   common blocks:
25011      C   /MYCODE/ IAY
25012      C   /SIZPAR/ NTERMS,INDXCS
25013      C   /SIZCAL/ CSIZE
25014      C
25015      C Output on return:
25016      C
25017      C   common block: /SIZCAL/ CSIZE
25018      C
25019      C Local array subscripts:
25020      C
25021      C SUB(4) - SUB ( IS )
25022      C
25023      C Local variable / array dictionary:
25024      C
25025      C   Name      Type      Description
25026      C   -----
25027      C C1ST11    R      sum of the first 11 category sizes
25028      C NT        I      number of terms in SUB(IS)
25029      C SUB       R      sum of category sizes to be subtracted from ATR to get CSIZE,
25030      C                       given IS, for sizes 8 to 11
25031      C
25032      C Notes:
25033      C
25034      C C8T012 is a new subprogram (added for MOBILE3).
25035      C
25036      C
25037      C   DIMENSION SUB(4)
25038      C
25039      C   COMMON /MYCODE/ MY,IDX,JDX,LDSY,LMYRVT,IAY,IMDSY,KINK
25040      C   COMMON /SIZPAR/ NTERMS(4),INDXCS(5,4)
25041      C   COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
25042      C
25043      C Categories 8 to 12 are derived from the first 7. first sum up the terms to
25044      C be subtracted.
25045      C
25046      C   DO 20 IS=1,4
25047      C   NT=NTERMS(IS)
25048      C   SUB(IS)=0.0
25049      C   DO 10 ICS=1,NT
25050      C   SUB(IS)=SUB(IS)+CSIZE(INDXCS(ICS,IS),IAY)
25051      C 10 CONTINUE
25052      C 20 CONTINUE
25053      C
25054      C   DO 30 IC=8,11
25055      C   IS=IC-7
25056      C   CSIZE(IC,IAY)=ATR(IS,IAY)-SUB(IS)
25057      C 30 CONTINUE

```


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```
25058 C
25059 C Assign the 12th category size (= no tampering effect) the residual
25060 C percentage.
25061 C
25062 C1ST11=0.0
25063 DO 40 IC11=1,11
25064 C1ST11=C1ST11+CSIZE(IC11,IAY)
25065 40 CONTINUE
25066 CSIZE(12,IAY)=1.0-C1ST11
25067 C
25068 RETURN
25069 END
```

```

26000      SUBROUTINE A8T011(IC)
26001      C
26002      C A8T011 adjusts effects category sizes when 1 or more of the no overlap
26003      C categories 8 to 11 are negative.
26004      C
26005      C Called by EFFGRP.
26006      C
26007      C Calls C8T012.
26008      C
26009      C Input on call:
26010      C
26011      C   parameter list: IC (flags the negative category size)
26012      C   common blocks:
26013      C   /LOOKUP/ JPGD
26014      C   /MYCODE/ IAY
26015      C   /SIZCAL/ CSIZE
26016      C   /SIZPAR/ NTERMS,INDXCS
26017      C
26018      C Output on return:
26019      C
26020      C   common block: /SIZCAL/ CSIZE
26021      C
26022      C Local array subscripts:
26023      C
26024      C ADJFAC(2) - ADJFAC ( IADJ )
26025      C
26026      C Local variable / array dictionary:
26027      C
26028      C   Name      Type      Description
26029      C   -----
26030      C ADJFAC    R      adjustment factor computed and used to modify CSIZE
26031      C DIV       R      divisor in ADJFAC(1) formula = sum of subset of CSIZE
26032      C NT        R      number of CSIZE terms in DIV
26033      C
26034      C Notes:
26035      C
26036      C A8T011 is a new subprogram (added for MOBILE3).
26037      C
26038      C
26039      C   DIMENSION ADJFAC(2)
26040      C
26041      C   COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
26042      C   COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
26043      C   COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
26044      C   COMMON /SIZPAR/ NTERMS(4),INDXCS(5,4)
26045      C
26046      C Sum up the same terms subtracted off to get CSIZE(IC,IAY).
26047      C
26048      C   IS=IC-7
26049      C   NT=NTERMS(IS)
26050      C   DIV=0.0
26051      C   DO 10 ICS=1,NT
26052      C     JCS=INDXCS(ICS,IS)
26053      C     DIV=DIV+CSIZE(JCS,IAY)
26054      C 10 CONTINUE
26055      C
26056      C Divide the sum into the tamper rate for the no overlap case (no other
26057      C tamper types occurring) case that is being computed. The result is the

```

```

26058 C first adjustment factor. One minus the result is the second adjustment
26059 C factor.
26060 C
26061 IAD=IS
26062 IF (IAD.EQ.1) IAD=JPGD
26063 ADJFAC(1)=ATR(IAD,IAY)/DIV
26064 ADJFAC(2)=1.0-ADJFAC(1)
26065 C
26066 C Multiply the second adjustment factor times the appropriate IC overlap
26067 C case and add to the related no-IC-occurring overlap case. The uncorrected
26068 C IC values are required for this step. Hence, ADJFAC(2) is applied before
26069 C ADJFAC(1).
26070 C
26071 IF (IC.EQ.8) CSIZE(6,IAY)=CSIZE(6,IAY)+CSIZE(4,IAY)*ADJFAC(2)
26072 IF (IC.EQ.8) CSIZE(7,IAY)=CSIZE(7,IAY)+CSIZE(5,IAY)*ADJFAC(2)
26073 IF (IC.EQ.9) CSIZE(2,IAY)=CSIZE(2,IAY)+CSIZE(4,IAY)*ADJFAC(2)
26074 IF (IC.EQ.9) CSIZE(3,IAY)=CSIZE(3,IAY)+CSIZE(5,IAY)*ADJFAC(2)
26075 IF (IC.EQ.10) CSIZE(1,IAY)=CSIZE(1,IAY)+CSIZE(4,IAY)*ADJFAC(2)
26076 IF (IC.EQ.11) CSIZE(1,IAY)=CSIZE(1,IAY)+CSIZE(5,IAY)*ADJFAC(2)
26077 C
26078 C Multiply the first adjustment factor times each of IC's overlap cases to
26079 C correct their values. This completes the adjustment of sizes 1 to 7.
26080 C
26081 DO 20 ICS=1,NT
26082 JCS=INDXCS(ICS,IS)
26083 CSIZE(JCS,IAY)=CSIZE(JCS,IAY)*ADJFAC(1)
26084 20 CONTINUE
26085 C
26086 C Recalculate category sizes 8 to 12. Use the same code as used on the
26087 C previous calculation(s).
26088 C
26089 CALL C8T012
26090 C
26091 C Size adjustment for category IC is finished. Note that the process
26092 C increases the size by decreasing the related overlap category sizes. The
26093 C other non-overlap categories will either also increase in size or not be
26094 C affected. Fixing one negative 8-11 size will never drive another 8-11 size
26095 C negative. The code therefore does not have to go back and check for such
26096 C a result.
26097 C
26098 RETURN
26099 END

```

```

27000      SUBROUTINE ADJ12(CSF1ST)
27001      C
27002      C ADJ12 adjusts all category sizes to eliminate a negative category 12
27003      C size.
27004      C
27005      C Called by EFFGRP.
27006      C
27007      C Calls CIT07 and C8T012.
27008      C
27009      C Input on call:
27010      C
27011      C   parameter list: CSF1ST
27012      C   common blocks:
27013      C   /LOOKUP/ IPG
27014      C   /MYCODE/ IAY
27015      C   /SIZCAL/ CSIZE
27016      C
27017      C Output on return:
27018      C
27019      C   common block: /SIZCAL/ CSIZE
27020      C
27021      C Local array subscripts:
27022      C
27023      C CSF2ND(7) - CSF2ND ( IC7 )
27024      C
27025      C Local variable / array dictionary:
27026      C
27027      C   Name      Type      Description
27028      C   -----
27029      C CSF2ND    R        category size factor for 2nd calculation of CSIZE;
27030      C                        passed to CIT07
27031      C ADJSUM    R        adjustment factor to scale down 1st calculation of CSIZE
27032      C
27033      C Notes:
27034      C
27035      C ADJ12 is a new subprogram (added for MOBILE3).
27036      C
27037      C
27038      C   DIMENSION CSF1ST(7,2),CSF2ND(7)
27039      C
27040      C   COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
27041      C   COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
27042      C   COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
27043      C
27044      C Adjustment sum is sum of the positive emission effect category sizes.
27045      C
27046      C   ADJSUM=0.0
27047      C   DO 10 IC11=1,11
27048      C   ADJSUM=ADJSUM+CSIZE(IC11,IAY)
27049      C 10 CONTINUE
27050      C
27051      C Apply adjustment sum to all the 1st calculation category size factors
27052      C to get the 2nd calculation size factors.
27053      C
27054      C   DO 20 IC7=1,7
27055      C   CSF2ND(IC7)=ADJSUM*CSF1ST(IC7,IPG)
27056      C 20 CONTINUE
27057      C

```



```
27058 C Now recalculate all 12 category sizes. category size 12 will go to 0.0
27059 C (the sum of the first 11 sizes will become 1.0).
27060 C
27061 CALL C1T07(CSF2ND)
27062 CALL C8T012
27063 C
27064 C Check if any of the sizes for 8 to 11 went negative on the recalculation.
27065 C
27066 DO 30 IC=8,11
27067 IF(CSIZE(IC,IAY).LT.0) CALL A8T011(IC)
27068 30 CONTINUE
27069 C
27070 C 2nd adjustments to 8-11 will not drive 12 negative, due to the changed
27071 C CSF's. Hence, we do not need to check 12 again. Checking again would make
27072 C the whole procedure recursive and probably open to infinite loops.
27073 C
27074 RETURN
27075 END
```

```

28000      SUBROUTINE ATPEFF(*)
28001      C
28002      C ATPEFF applies the anti-tampering effectiveness factors to the 11
28003      C positive tampering effect categories.
28004      C
28005      C Called by EFFGRP.
28006      C
28007      C Input on call:
28008      C
28009      C   common blocks:
28010      C   /EGSCAL/ AER
28011      C   /LOOKUP/ IPG
28012      C   /MYCODE/ IAY
28013      C   /SIZCAL/ CSIZE
28014      C
28015      C Output on return:
28016      C
28017      C   common block: /SIZCAL/ CSAE
28018      C
28019      C Local variable dictionary:
28020      C
28021      C   Name      Type      Description
28022      C   -----
28023      C   CIST11    R         sum of first 11 category sizes, assigned as 12th category
28024      C                   size
28025      C
28026      C Notes:
28027      C
28028      C ATPEFF is a new subprogram (added for MOBILE3).
28029      C
28030      C
28031      C   COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
28032      C   COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
28033      C   COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
28034      C   COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
28035      C
28036      C The sum of the 11 positive categories will be subtracted from 1.0 to get
28037      C the 12th, no effect, category.
28038      C
28039      C   CIST11=0.0
28040      C
28041      C ATP effectiveness modified size ICOL will be the product of the entire
28042      C unmodified row size vector times the ICOL'th column of the effectiveness
28043      C matrix for the given pollutant group and pre/post ATP year case.
28044      C
28045      C The effectiveness matrices are currently identical. Each has the major
28046      C diagonal all 1.0's and all other cells 0.0. the result of this subroutine
28047      C is thus to merely echo CSIZE into CSAE with no changes.
28048      C
28049      C   DO 20 ICOL=1,11
28050      C   CSAE(ICOL)=0.0
28051      C
28052      C   DO 10 IROW=1,11
28053      C   CSAE(ICOL)=CSAE(ICOL)+CSIZE(IROW,IAY)*AER(IROW,ICOL,IPG,IAY)
28054      C 10 CONTINUE
28055      C
28056      C   CIST11=CIST11+CSAE(ICOL)
28057      C 20 CONTINUE

```

Appendix C: MOBILE3 Subroutine ATPEFF

June 7, 1984

```
28058 C
28059 C The no effects case is not used hereafter. It is only computed for
28060 C error checking.
28061 C
28062 CSAE(12)=1.0-C1ST11
28063 RETURN
28064 END
```

```

29000      SUBROUTINE SETEGS
29001      C
29002      C   SETEGS sets the effects group sizes by combining subsets of the
29003      C   overlap category sizes and weighting by the technology group sizes.
29004      C
29005      C   Called by EFFGRP.
29006      C
29007      C   Input on call:
29008      C
29009      C       common blocks:
29010      C       /LOOKUP/ IQG,IPG
29011      C       /SIZCAL/ TGSUSE,CSAE
29012      C
29013      C   Output on return:
29014      C
29015      C       common block: /EGSCAL/ EGS
29016      C
29017      C   Local array subscripts:
29018      C
29019      C   INDXEG(6,7,2) - INDXEG ( IC, IEG, IPG )
29020      C   INDXPG(2,2)  - INDXPG ( ILU, IPG )
29021      C   NEGC(7,2)   - NEGC ( IEG, IPG )
29022      C
29023      C   Local variable / array dictionary:
29024      C
29025      C       Name      Type      Description
29026      C       -----
29027      C   INDXEG      I          secondary index array: pointers to category sizes
29028      C                               in IEG's size sum, given IPG
29029      C   INDXPG      I          loop indices array: first and last nonzero effects group
29030      C                               sizes, given IPG
29031      C   NC          I          loop test value: number of category sizes in IEG's size
29032      C                               equation, given IPG
29033      C   NEGC        I          loop test values array: looks up NC
29034      C
29035      C   Notes:
29036      C
29037      C   SETEGS is a new subprogram (added for MOBILE3).
29038      C
29039      C
29040      C       DIMENSION INDXPG(2,2),NEGC(7,2),INDXEG(6,7,2)
29041      C
29042      C       COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
29043      C       COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
29044      C       COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
29045      C
29046      C       DATA INDXPG/1,4, 3,7/,NEGC/1,1,6,4,3*0, 2*0,3,2,1,3,2/
29047      C       DATA INDXEG/
29048      C       1 8,5*0, 8,5*0, 1,4,5,6,7,9, 2,3,10,11,2*0, 6*0, 6*0, 6*0,
29049      C       2 6*0, 6*0, 6,7,9,3*0, 10,11,4*0, 8,5*0, 1,4,5,3*0, 2,3,4*0/
29050      C
29051      C   Do not compute group sizes for cases known to be always 0 (5-7 for HC/CO
29052      C   and 1-2 for NOX).
29053      C
29054      C       IE1ST=INDXPG(1,IPG)
29055      C       IELST=INDXPG(2,IPG)
29056      C
29057      C   Equipment = air pump /catalyst => air pump disablement (air pump only

```



```

29058      C                      equipped) effects group increment = 0.0
29059      C
29060      C      IF(IQG.EQ.2.AND.IPG.EQ.1) IE1ST=2
29061      C
29062      C      Converse air pump case:
29063      C
29064      C      Equipment = air pump only => only effects group 1 (ap only disabled) > 0.0
29065      C
29066      C      IF(IQG.EQ.1.AND.IPG.EQ.1) IELST=1
29067      C
29068      C      For each effects group IEG, the size is the sum of the product of the
29069      C      related category sizes times the technology group size for the technology
29070      C      type IQG being evaluated on this pass.
29071      C
29072      C      DO 20 IEG=IE1ST,IELST
29073      C
29074      C      Get the number of categories involved in group IEG.
29075      C
29076      C      NC=NEGC(IEG,IPG)
29077      C
29078      C      Now do the sum.
29079      C
29080      C      DO 10 IC=1,NC
29081      C      JCS=INDEXEG(IC,IEG,IPG)
29082      C      EGS(IEG,IPG)=EGS(IEG,IPG)+TGSUSE*CSAE(JCS)
29083      C      10 CONTINUE
29084      C      20 CONTINUE
29085      C
29086      C      RETURN
29087      C      END

```

```

30000      SUBROUTINE BIGCFX(ICY,IR,SALHCF)
30001      C
30002      C BIGCFX computes correction factors applied to composite emission
30003      C factors, e.g., speed, temperature, humidity, etc.
30004      C
30005      C Called by EFCALX.
30006      C
30007      C Calls ALUH, IGPPTR, ISPPTR, ISPPT8, ITCPTR and SPFCLX.
30008      C
30009      C Input on call:
30010      C
30011      C   parameter list: ICY,IR
30012      C   common blocks:
30013      C   /ACOM/   AIN
30014      C   /BEFGCM/ EXMETH
30015      C   /CUMCOM/ CUMMIL
30016      C   /FLAGS2/ ALHFLG
30017      C   /FLAGS3/ NMHFLG
30018      C   /GPCCOM/ GPACOF,GPBCOF
30019      C   /IVPCOM/ IVPTRG,IVPTRT,IVPTRB,IVPTRB
30020      C   /LNKCOM/ SPD,AMBT,PCCN,PCHC,PCCC
30021      C   /SYSCOM/ MAXVEH,MAXPOL
30022      C   /TAMOUT/ TAMBAG
30023      C   /TCCOM1/ TTACOF,TT4COF,TT7COF
30024      C
30025      C Output on return:
30026      C
30027      C   parameter list: SALFCF
30028      C   common blocks:
30029      C   /OFFCOM/ OFFCO,OFFMTH
30030      C   /OMTCOM/ OMTCF,OMTTAM
30031      C   /RET1/   ALHRET
30032      C
30033      C Local array subscripts:
30034      C
30035      C CHFHDG(3)      - CHFHDG ( IB )
30036      C CHFRAC(3)     - CHFRAC ( IB )
30037      C FTPSPD(3)     - FTPSPD ( IB )
30038      C ISPGRP(3,4)   - ISPGRP ( IP, IVA )
30039      C NCATYR(8)     - NCATYR ( IV )
30040      C SALHCF(20,3,8) - SALHCF ( IDX, IP, IV )
30041      C SCFADJ(3,4)   - SCFADJ ( IP, IVA )
30042      C TCF(3)       - TCF ( IB )
30043      C
30044      C Local variable / array dictionary:
30045      C
30046      C   Name      Type      Description
30047      C   -----
30048      C CHFHDG    R        HDGV operating mode fractions (cold, hot stabilized and
30049      C                                hot start fractions of HDGV vmt, hardcoded)
30050      C CHFRAC     R        computed operating mode fractions for given MY & IV
30051      C COMT       R        working location for operating mode and temperature c.f. to
30052      C                                be multiplied times the base emission factor
30053      C FCC        R        fraction of vmt in cold start mode, vehicle catalyst equipped
30054      C FCN        R        fraction of vmt in cold start mode, non-catalyst equipped
30055      C FHC        R        fraction of vmt in hot start mode, catalyst equipped
30056      C FHN        R        fraction of vmt in hot start mode, non-catalyst equipped
30057      C FTPSPD    R        FTP standard speeds for the 3 operating modes

```

Appendix C: MOBILE3 Subroutine BIGCFX

June 7, 1984

```

30058 C ICOEFF I pointer to term in 5th degree polynomial scf equation
30059 C ISADJ I integer location used in rounding the scenario's SADJ
30060 C ISAVE I save location for scf pointer IG (its value can be changed
30061 C for 1 used & then restored for a later use)
30062 C ISPGRP I the speed coefficient group last used for the given IV & IP.
30063 C ISPGRP eliminates recalculating SCFADJ for every MY.
30064 C MDLOHI I TCF case: 0 = mid (no correction), 1 = low, 2 = high
30065 C NCATYR I last non-catalyst MY for the given IV
30066 C OMT R unweighted product of operating mode vmt fraction times
30067 C temperature correction factor
30068 C S R vehicle speed from SPD, given IV
30069 C SADJ R FTP operating mode speeds weighted together by the vmt
30070 C fraction for each to get scenario's average speed
30071 C SALHCF R see parameter dictionary
30072 C SCFADJ R SPBACK adjustment for the difference between 19.6 and SADJ
30073 C SPBACK R see parameter dictionary
30074 C SPDGPB R accumulator: stores scf calculations for subgroup IVB
30075 C TCF R temperature correction factor for each bag
30076 C TOMT R tampering offset adjusted for operating mode & temperature
30077 C TT R difference between entered ambient temperature & 75 degrees F
30078 C XMILES R cumulative mileage in ICY for IV from MY scaled by 10**4
30079 C
30080 C Notes:
30081 C
30082 C The critical tampering application code changes occurred here & in BEF.
30083 C CFRET is now SALHCF and holds only the speed correction factor and the
30084 C optional ALUH correction factor. OMTCF holds the operating mode and
30085 C temperature correction factors to be multiplied times the base composite
30086 C ef. OMTTAM is the same correction factors already applied to the bag
30087 C tampering effects and is to be added to the composite ef after OMTCF and
30088 C PCLEFT have been applied.
30089 C
30090 C TAMOUT serves the same function in the OMTTAM computation that GPACOF
30091 C and XMILES serve in OMTCF's: the base factor/additive.
30092 C
30093 C The speed correction factor code was separated from the bag data code,
30094 C since CFRET was split.
30095 C The special speed correction equation for HDDV NOX was implemented.
30096 C
30097 C A new temperature correction factor pointer function, ITCPTR, was
30098 C added. This was required since the normalized bag fraction and
30099 C temperature correction years no longer coincided as they did in MOBILE2.
30100 C The temperature correction base was changed from 68F to 75F.
30101 C
30102 C The methane offset model was encoded. The methane adjustment was changed
30103 C from a multiplicative to a subtractive factor. The methane offset "MTHOFF"
30104 C is calculated by bag (or composite) and passed to BEF via the common block
30105 C OFFCOM. The idle methane factor is calculated in BEFIDL.
30106 C
30107 C The offset model was introduced for CO bag1. The values calculated
30108 C by the model are placed into the array variable "OFFSET" and passed
30109 C to subroutine BEF via common block OFFCOM.
30110 C
30111 C
30112 C INTEGER ALHFLG,ATPFLG,PRTFLG
30113 C
30114 C COMMON /ACOM/ AIN(6,21,3)
30115 C COMMON /BEFGCM/ EXMETH(3,5,8,2),MYGEXM(5,8,2)

```

```

30116      COMMON /CUMCOM/ CUMMIL(20,8)
30117      COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
30118      COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
30119      COMMON /GPCCOM/ GPACOF(8,13,3,6),GPBCOF(3,3,3,4)
30120      COMMON /IVPCOM/ IVPTRG(8),IVPTRT(8),IVPTRA(8),IVPTRB(8)
30121      COMMON /LNKCOM/ SPD(8),AMBT,PCCN,PCHC,PCCC
30122      COMMON /OFFCOM/ OFFCO(20,3),OFFMTH(20,8)
30123      COMMON /OMTCOM/ OMTCF(20,3,8),OMTTAM(20,3,4)
30124      COMMON /RET1/ ALHRET(20,4,3)
30125      COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
30126      COMMON /TAMOUT/ TAMBAG(3,3,20,4),TAMEVP(3,20,4)
30127      COMMON /TCCOM1/ TTACOF(2,3,9,3,6),TT4COF(2,9,3),TT7COF(2,3)
30128      C
30129      DIMENSION FTPSPD(3),SPBACK(21,3,8),SCFADJ(3,4),ISPGRP(3,4)
30130      DIMENSION SALHCF(20,3,8)
30131      DIMENSION TCF(3),CHFRAC(3),NCATYR(8),CHFHDG(3)
30132      C
30133      DATA FTPSPD/26.0,16.0,26.0/
30134      DATA NCATYR/1974,1974,1978,1983,2020,2020,2020,2020/
30135      DATA CHFHDG/.206,.521,.273/
30136      C
30137      C Calculate average speed for the operating mode fractions.
30138      C
30139      SADJ=PCCC/FTPSPD(1)
30140      -   +(100.-PCCC-PCHC)/FTPSPD(2)
30141      -   +PCHC/FTPSPD(3)
30142      SADJ=100./SADJ
30143      ISADJ=SADJ*10.+0.5
30144      SADJ=ISADJ/10.
30145      C
30146      C Get IVA unweighted scf's and optional correction factors.
30147      C
30148      CALL SPFLX(SPD,SPBACK)
30149      IF(ALHFLG.GT.1) CALL ALUH(ICY,IR)
30150      C
30151      C Compute operating mode fractions.
30152      C
30153      FCN=PCCN*.01
30154      FHC=PCHC*.01
30155      FCC=PCCC*.01
30156      FHN=(FCC-FCN)+FHC
30157      C
30158      C Setup for temperature correction factor loop:
30159      C
30160      C Decide tcf case.
30161      C
30162      IF(AMBT.LT.75.) GOTO 12
30163      IF(AMBT.GT.75.) GOTO 14
30164      C
30165      C No correction => set multiplicative tcf to unity.
30166      C
30167      MDLOHI=0
30168      DO 10 IB=1,3
30169      TCF(IB)=1.
30170      10 CONTINUE
30171      GOTO 20
30172      C
30173      C Ambient temperature is below FTP standard.

```



```

30174      C
30175      12 MDLOHI=1
30176          TT=AMBT-75.0
30177          GOTO 20
30178      C
30179      C Ambient temperature is above FTP standard.
30180      C
30181      14 MDLOHI=2
30182          TT=AMBT-75.
30183      C
30184      C Compute speed and temperature correction factors.
30185      C
30186      20 DO 90 IDX=1,20
30187          JDX=21-IDX
30188          MY=ICY-(20-IDX)
30189      C
30190          DO 90 IV=1,MAXVEH
30191              IVG=IVPTRG(IV)
30192              IVT=IVPTRT(IV)
30193              IVA=IVPTRA(IV)
30194              IVB=IVPTRB(IV)
30195              GOTO (22,22,22,26,24,24,26,24),IV
30196      22 ISP=ISPTR(MY,IR,IVG)
30197      24 XMILES=CUMMIL(JDX,IV)*.0001
30198      C
30199      26 DO 90 IP=1,MAXPOL
30200          IF (IV.EQ.8) ISP=ISPPT8(MY,IR,IP)
30201          IG=IGPTR(MY,IP,IR,IV)
30202          IT=ITCPT(MY,IP,IR,IV)
30203          GOTO (28,28,28,32,28,28,32,28),IV
30204      C
30205      C Assign cold/hot fractions by model year group.
30206      C
30207      28 CHFRAC(1)=FCN
30208          CHFRAC(3)=FHN
30209          IF (MY.LE.NCATYR(IV)) GOTO 30
30210          CHFRAC(1)=FCC
30211          CHFRAC(3)=FHC
30212      30 CHFRAC(2)=1.-CHFRAC(1)-CHFRAC(3)
30213      C
30214      C Temperature correction factor (TCF) section.
30215      C
30216      32 IF (MDLOHI.EQ.0) GOTO 44
30217          GOTO (34,34,34,38,34,34,40,34),IV
30218      C
30219      C Lo/hi TCF for LDGV, LDGT1, LDGT2, LDDV, LDDT, and MC.
30220      C
30221      34 DO 36 IB=1,3
30222          TCF(IB)=EXP(TTACOF(MDLOHI,IB,IT,IP,IVT)*TT)
30223      36 CONTINUE
30224      C
30225      C Use offset model if CO, low or high altitude, low temperature,
30226      C and my=1980+ for LDGV, my=1984+ for LDGT
30227      C
30228          IF (IP.NE.2.OR.IV.GE.4.OR.MDLOHI.NE.1) GOTO 44
30229          IF (IV.EQ.1.AND.MY.LT.1980) GOTO 44
30230          IF ((IV.EQ.2.OR.IV.EQ.3).AND.MY.LT.1984) GOTO 44
30231          TCF(1)=-1.3812*(AMBT-75.)

```

```

30232      GOTO 44
30233      C
30234      C Lo/hi TCF for HDGV
30235      C
30236      38 TCF(1)=EXP(TT4COF(MDLOHI,IT,IP)*TT)
30237      GOTO 44
30238      C
30239      C Lo/hi TCF for HDDV
30240      C
30241      40 TCF(1)=EXP(TT7COF(MDLOHI,IP)*TT)
30242      C
30243      C Speed correction factor section
30244      C
30245      44 GOTO(52,52,52,46,48,48,48,52),IV
30246      C
30247      C SCF for HDGV, LDDV, LDDT, and HDDV.
30248      C Use SCF coefficients from GPBCOF table.
30249      C If HDDV and NOX, use special SCF equation.
30250      C
30251      46 IF(IG.EQ.3) IG=2
30252      48 ISAVE=IG
30253      IF(IG.GT.3) IG=3
30254      S=SPD(IV)
30255      IF(IV.EQ.4.OR.IV.EQ.7)
30256      *   SPDGPB=GPBCOF(3,IP,IG,IVB)*S*S
30257      *   +GPBCOF(2,IP,IG,IVB)*S
30258      *   +GPBCOF(1,IP,IG,IVB)
30259      IF(IV.EQ.5.OR.IV.EQ.6)
30260      *   SPDGPB=GPBCOF(3,IP,IG,IVB)*(S*S-SADJ*SADJ)
30261      *   +GPBCOF(2,IP,IG,IVB)*(S-SADJ)
30262      IF(IV.NE.4.OR.IV.NE.3) SPDGPB=EXP(SPDGPB)
30263      SALHCF(IDX,IP,IV)=SPDGPB
30264      IG=ISAVE
30265      GOTO 62
30266      C
30267      C SCF for LDGV, LDGT1, LDGT2 and MC.
30268      C
30269      52 IF(IDX.GT.1.AND.ISPGRP(IP,IVA).EQ.ISP) GOTO 58
30270      C
30271      SCF=AIN(6,ISP,IP)
30272      DO 54 ICOEFF=1,5
30273      SCF=SCF*SADJ+AIN(6-ICOEFF,ISP,IP)
30274      54 CONTINUE
30275      IF(IP.NE.3.OR.IV.EQ.3.AND.ISP.GE.19) SCF=EXP(SCF)
30276      SCFADJ(IP,IVA)=SCF
30277      ISPGRP(IP,IVA)=ISP
30278      C
30279      58 SALHCF(IDX,IP,IV)=SPBACK(ISP,IP,IV)/SCFADJ(IP,IVA)
30280      C
30281      C If optional corrections selected, correct LDGV, LDGT1, LDGT2 and MC
30282      C for air conditioning, extra load, trailer towing and/or humidity.
30283      C
30284      IF(ALHFLG.GT.1)
30285      1 SALHCF(IDX,IP,IV)=SALHCF(IDX,IP,IV)*ALHRET(IDX,IVA,IP)
30286      C
30287      C Multiplicative corrections for operating mode and temperature and
30288      C additive corrections for tampering, CO and methane are done in the final
30289      C section.

```

```

30290 C
30291 C HDV types are simpler: there are no operating mode corrections, only 1
30292 C temperature cf and no CO offset.
30293 C
30294 62 IF (IV.NE.4.AND.IV.NE.7) GOTO 74
30295 OMTCF (IDX,IP,IV)=TCF (1)
30296 C
30297 C HDGV by bag tampering effects recombined and corrected for temperature:
30298 C
30299 IF (IV.EQ.7) GOTO 70
30300 TOMT=0.0
30301 DO 66 IB=1,3
30302 TOMT=TOMT+CHFHDG (IB)*TAMBAG (IB,IP,IDX,IV)
30303 66 CONTINUE
30304 OMTTAM (IDX,IP,IV)=TOMT*TCF (1)
30305 C
30306 C Check for methane offset.
30307 C
30308 70 IF (IP.EQ.1) OFFMTH (IDX,IV)=0.0
30309 IF (IP.NE.1.OR.NMHFLG.EQ.1) GOTO 90
30310 IEX=IEXMPT (MY,IV,IR)
30311 OFFMTH (IDX,IV)=EXMETH (1,IEX,IV,IR)
30312 GOTO 90
30313 C
30314 C LDV/T and MC:
30315 C
30316 C (1) Bag loop multiplies previously computed op mode & temp corr factors
30317 C times the appropriate RIPSTWXN bag term coefficient and times the
30318 C tampering bag emissions effect, if LDGV/T.
30319 C (2) If bag 1 CO offset used, save additive factor.
30320 C (3) Calculate methane offset with bag fractions and temperature
30321 C correction factors included.
30322 C
30323 74 COMT=0.0
30324 TOMT=0.0
30325 IF (IV.LE.3.AND.IP.EQ.2) OFFCO (IDX,IV)=0.0
30326 IF (IP.EQ.1) OFFMTH (IDX,IV)=0.0
30327 C
30328 DO 86 IB=1,3
30329 OMT=CHFRAC (IB)*TCF (IB)
30330 C
30331 C Methane offset
30332 C
30333 IF (IP.NE.1.OR.NMHFLG.EQ.1) GOTO 78
30334 IEX=IEXMPT (MY,IV,IR)
30335 OFFMTH (IDX,IV)=OFFMTH (IDX,IV)+EXMETH (IB,IEX,IV,IR)*OMT
30336 C
30337 C CO offset
30338 C
30339 78 IF (IB.NE.1.OR.IP.NE.2.OR.IV.GE.4.OR.MDLOHI.NE.1)
30340 * GOTO 82
30341 IF (IV.EQ.1.AND.MY.LT.1980) GOTO 82
30342 IF ((IV.EQ.2.OR.IV.EQ.3).AND.MY.LT.1984) GOTO 82
30343 OFFCO (IDX,IV)=OMT
30344 COMT=COMT+CHFRAC (IB)
30345 1 * (GPACOF (2*IB,IG,IP,IVG)*XMILES+GPACOF (2*IB-1,IG,IP,IVG))
30346 GOTO 86
30347 C

```

```
30348 C No CO offset
30349 C
30350 82 COMT=COMT+OMT
30351 1 *(GPACOF (2*IB,IG,IP,IVG)*XMILES+GPACOF (2*IB-1,IG,IP,IVG))
30352 C
30353 IF (IV.LE.3) TOMT=TOMT+OMT*TAMBAG (IB,IP,IDX,IV)
30354 86 CONTINUE
30355 C
30356 C Complete normalization & assign to corrections arrays.
30357 C
30358 OMTCF (IDX,IP,IV)=COMT/
30359 1 (GPACOF (8,IG,IP,IVG)*XMILES+GPACOF (7,IG,IP,IVG))
30360 IF (IV.LE.3) OMTTAM (IDX,IP,IV)=TOMT
30361 C
30362 90 CONTINUE
30363 C
30364 RETURN
30365 END
```



```

31000      SUBROUTINE SPFCLX (SPARA,SPBACK)
31001      C
31002      C SPFCLX evaluates the 5th degree polynomial speed correction factor
31003      C equation for all 8 IV, 3 IP and 21 IG. For HC, CO and 1 case of NOx, the
31004      C results are exponentiated.
31005      C
31006      C Called by BIGCFX.
31007      C
31008      C Input on call:
31009      C
31010      C   parameter list: SPARA
31011      C   common blocks:
31012      C   /ACOM/   AIN
31013      C   /SYSCOM/ MAXVEH,MAXPOL
31014      C
31015      C Output on return:
31016      C
31017      C   parameter list: SPBACK
31018      C
31019      C Local variable dictionary:
31020      C
31021      C   Name      Type      Description
31022      C   -----
31023      C   AVESPD    R        average speed for the vehicle type IV
31024      C   SCF      R        speed correction factor for the given IV, IP and IG
31025      C
31026      C Notes:
31027      C
31028      C Although calculated for all 8 IV, the results are only used by BIGCFX for
31029      C subgroup IVA (LDGV, LDGT1/2, MC).
31030      C
31031      C
31032      C   COMMON /ACOM/   AIN(6,21,3)
31033      C   COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
31034      C   DIMENSION SPARA(8),SPBACK(21,3,8)
31035      C
31036      C   DO 20 IV=1,MAXVEH
31037      C   AVESPD=SPARA(IV)
31038      C
31039      C   DO 20 IP=1,MAXPOL
31040      C
31041      C   DO 20 ISP=1,21
31042      C   SCF=AIN(6,ISP,IP)
31043      C
31044      C   DO 10 ICOEFF=1,5
31045      C   SCF=SCF*AVESPD+AIN(6-ICOEFF,ISP,IP)
31046      C 10 CONTINUE
31047      C
31048      C   IF (IP.NE.3.OR.IP.EQ.3.AND.ISP.GE.19) SCF=EXP(SCF)
31049      C   SPBACK (ISP,IP,IV)=SCF
31050      C 20 CONTINUE
31051      C
31052      C   RETURN
31053      C   END

```

```

32000      SUBROUTINE ALUH(ICY,IR)
32001      C
32002      C  ALUH computes emission correction factors for air conditioning, extra
32003      C  loading, trailer towing and humidity for vehicle types  LDGV, LDGT1, LDGT2
32004      C  and LDGT (composite of LDGT1 & LDGT2).  Additionally, the humidity
32005      C  correction is applied to MC vehicles.
32006      C
32007      C  Called by BIGCFX.
32008      C
32009      C  Calls IGEPTR, IGLPTR, IGTPTTR and IGUPTR.
32010      C
32011      C  Input on call:
32012      C
32013      C    parameter list: ICY,IR
32014      C    common blocks:
32015      C    /ALUHAC/ ACEQIP,ACCF
32016      C    /ALUHLT/ XLCF,TWCF
32017      C    /LNKCOM/ AMBT
32018      C    /SYSCOM/ MAXLTW,MAXPOL
32019      C    /XCFS1/  XLOAD,TRAILR,ABSHUM,DB,WB
32020      C
32021      C  Output on return:
32022      C
32023      C    common blocks:
32024      C    /RET1/  ALHRET
32025      C    /XCFS1/  AC
32026      C
32027      C  Local variable dictionary:
32028      C
32029      C    Name      Type      Description
32030      C    -----
32031      C    ACU        R      fraction of vehicles that are equipped with air conditioning
32032      C                      and are using it
32033      C    DI          R      discomfort index computed from the user supplied (default)
32034      C                      values of dry bulb (db) and wet bulb (wb) temperatures
32035      C    DIHI         R      high reference temperature for DI: above this temperature
32036      C                      AC is on (100% use)
32037      C    DILO         R      low reference temperature for DI: below this temperature
32038      C                      AC is off (0% use)
32039      C    HH          R      HC or CO => 1.; NOx => humidity correction factor
32040      C    HHH         R      HC or CO => 1.; NOx => humidity correction factor
32041      C    TT          R      deviation from FTP standard temperature (75 degrees F)
32042      C    TWU         R      fraction of vehicles towing a trailer
32043      C    XLU         R      fraction of vehicle s with an extra load
32044      C
32045      C  Notes:
32046      C
32047      C  The humidity correction factor formula was changed from
32048      C  1.-0.0047*(ABSHUM-75) to 1.-0.0042*(ABSHUM-75) .
32049      C
32050      C
32051      C    COMMON /ALUHAC/ ACEQIP(8,3,2),ACCF(2,3,2,3,2)
32052      C    COMMON /ALUHLT/ XLCF(3,6,3,2),TWCF(3,6,3,2)
32053      C    COMMON /LNKCOM/ SPD(8),AMBT,PCCN,PCHC,FCCC
32054      C    COMMON /RET1/  ALHRET(20,4,3)
32055      C    COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
32056      C    COMMON /XCFS1/  AC,XLOAD(3),TRAILR(3),ABSHUM,DB,WB
32057      C

```

Appendix C: MOBILE3 Subroutine ALUH

June 7, 1984

```

32058      C
32059      DATA DILO/70./
32060      DATA DIHI/80./
32061      C
32062      IF (AC.EQ.0.) GOTO 10
32063      C
32064      C Compute AC based on discomfort index DI.
32065      C
32066      DI=(DB+WB)*.4+15.
32067      AC=(DI-DILO)/(DIHI-DILO)
32068      IF (AC.LT.0.) AC=0.0
32069      IF (AC.GT.1.) AC=1.
32070      C
32071      C Setup humidity correction factors.
32072      C
32073      10 TT=AMBT-75.
32074      HHH=1.-0.00380*(ABSHUM-75.)
32075      C
32076      C Assign MC only for IP=3.
32077      C
32078      DO 20 IDX=1,20
32079      ALHRET (IDX,4,1)=1.
32080      ALHRET (IDX,4,2)=1.
32081      ALHRET (IDX,4,3)=HHH
32082      20 CONTINUE
32083      C
32084      C Assign other vehicle correction factors.
32085      C
32086      DO 40 IVA=1,MAXLTW
32087      XLU=XLOAD (IVA)
32088      TWU=TRAILR (IVA)
32089      C
32090      DO 30 IDX=1,20
32091      MY=ICY- (20-IDX)
32092      IGU=IGUPTR (MY,IVA,IR)
32093      IGE=IGEPTR (MY,IVA,IR)
32094      IGL=IGLPTR (MY,IVA,IR)
32095      IGT=IGTPTR (MY,IVA,IR)
32096      ACU=ACEQIP (IGE,IVA,IR)*AC
32097      C
32098      DO 30 IP=1,MAXPOL
32099      HH=1.
32100      IF (IP.EQ.3) HH=HHH
32101      ALHRET (IDX,IVA,IP)=
32102      * ((ACCF (2,IP,IGU,IVA,IR)*TT+ACCF (1,IP,IGU,IVA,IR)-1.)*ACU+1.)
32103      * * ((XLCF (IP,IGL,IVA,IR)-1.)*XLU+1.)
32104      * * ((TWCf (IP,IGT,IVA,IR)-1.)*TWU+1.)
32105      * *HH
32106      30 CONTINUE
32107      C
32108      40 CONTINUE
32109      C
32110      RETURN
32111      END

```

Appendix C: MOBILE3 Function CCEVRT

June 7, 1984

```

33000      FUNCTION CCEVRT(MY,IDX,IV,IR)
33001      C
33002      C CCEVRT is a REAL-valued function that returns a hydrocarbon combined
33003      C evaporative (hot soak + diurnal) and crankcase emission factor. The
33004      C hot soak value is weighted by trips per day and the evaporative sum is
33005      C weighted by miles per day.
33006      C
33007      C Called by EFCALX.
33008      C
33009      C Calls CRANKC, DIURNL, HOTSOK, TPD and XMPD.
33010      C
33011      C Input on call:
33012      C
33013      C     parameter list: MY,IDX,IV,IR
33014      C     common block: /TAMOUT/ TAMEVP
33015      C
33016      C Output on return:
33017      C
33018      C     function: CCEVRT
33019      C
33020      C Local variable dictionary:
33021      C
33022      C      Name      Type      Description
33023      C      -----
33024      C      CC        R        crankcase HC effect = CRANKC + tampering cc offset, if any
33025      C      DI        R        diurnal HC effect = DIURNL + tampering di offset, if any
33026      C      HS        R        hot soak HC effect = HOTSOK + tampering hs offset, if any
33027      C      MPD       R        miles per day from XMPD: divide into evaporative HC sum
33028      C
33029      C Notes:
33030      C
33031      C Hot soak, diurnal and crankcase tampering HC effects are added into their
33032      C corresponding without-tampering HC effects (from BLOCK DATA lookups).
33033      C The additions are done before miles per day and trips per day are applied
33034      C as weights.
33035      C
33036      C
33037      C      REAL MPD,HS
33038      C
33039      C      COMMON /TAMOUT/ TAMBAG(3,3,20,4),TAMEVP(3,20,4)
33040      C
33041      C      CCEVRT=0.0
33042      C      MPD=XMPD(MY,IV,IR)
33043      C      IF(MPD.EQ.0.0) GOTO 90
33044      C
33045      C Look up the untampered evap & crankcase emissions.
33046      C
33047      C      HS=HOTSOK(MY,IV,IR)
33048      C      DI=DIURNL(MY,IV,IR)
33049      C      CC=CRANKC(MY,IV,IR)
33050      C
33051      C GV/T => tampering evap & crankcase HC effects are to be added.
33052      C
33053      C      IF(IV.GT.4) GOTO 10
33054      C      HS=HS+TAMEVP(1,IDX,IV)
33055      C      DI=DI+TAMEVP(2,IDX,IV)
33056      C      CC=CC+TAMEVP(3,IDX,IV)
33057      C

```


Appendix C: MOBILE3 Function CCEVRT

June 7, 1984

```
33058      10 CCEVRT=(HS*TPD(MY,IV,IR)+DI)/MPD+CC  
33059 C  
33060      90 RETURN  
33061      END
```

Appendix C: MOBILE3 Function HOTSOK

June 7, 1984

```
34000      FUNCTION HOTSOK(MY,IV,IR)
34001      C
34002      C  HOTSOK selects the yearly value for hot soak HC.
34003      C
34004      C  Called by CCEVRT.
34005      C
34006      C  Calls QUITER.
34007      C
34008      C  Input on call:
34009      C
34010      C    parameter list: MY,IV,IR
34011      C    common block: /HOTCOM/ MAXHOT,HOTVAL,MYGHOT
34012      C
34013      C  Output on return:
34014      C
34015      C    function: HOTSOK
34016      C
34017      C
34018      C    COMMON /HOTCOM/ MAXHOT,HOTVAL(13,8,2),MYGHOT(13,8,2)
34019      C
34020      C    DO 10 IG=1,MAXHOT
34021      C      IF (MY.LE.MYGHOT(IG,IV,IR)) GOTO 20
34022      C    10 CONTINUE
34023      C
34024      C  Set default.
34025      C
34026      C    IG=1
34027      C    CALL QUITER(HOTVAL(IG,IV,IR),1,60,MY)
34028      C    20 HOTSOK=HOTVAL(IG,IV,IR)
34029      C
34030      C    RETURN
34031      C    END
```

```

35000      FUNCTION TPD(MY,IV,IR)
35001      C
35002      C   TPD selects the yearly value for trips/day.
35003      C
35004      C   Called by CCEVRT.
35005      C
35006      C   Calls QUITER.
35007      C
35008      C   Input on call:
35009      C
35010      C       parameter list: MY,IV,IR
35011      C       common block: /TPDCOM/ MAXTPD,TPDVAL,MYGTPD
35012      C
35013      C   Output on return:
35014      C
35015      C       function: TPD
35016      C
35017      C
35018      C       COMMON /TPDCOM/ MAXTPD,TPDVAL(2,8,2),MYGTPD(2,8,2)
35019      C
35020      C       DO 10 IG=1,MAXTPD
35021      C       IF (MY.LE.MYGTPD(IG,IV,IR)) GOTO 20
35022      C   10 CONTINUE
35023      C
35024      C   Set default.
35025      C
35026      C       IG=1
35027      C       CALL QUITER(TPDVAL(IG,IV,IR),2,60,MY)
35028      C   20 TPD=TPDVAL(IG,IV,IR)
35029      C
35030      C       RETURN
35031      C       END

```

```
36000      FUNCTION DIURNL(MY,IV,IR)
36001      C
36002      C DIURNL selects the yearly value for diurnal HC.
36003      C
36004      C Called by CCEVRT.
36005      C
36006      C Calls QUITER.
36007      C
36008      C Input on call:
36009      C
36010      C   parameter list: MY,IV,IR
36011      C   common block: /DIUCOM/ MAXDIU,DIUVAL,MYGDIU
36012      C
36013      C Output on return:
36014      C
36015      C   function: DIURNL
36016      C
36017      C
36018      C   COMMON /DIUCOM/ MAXDIU,DIUVAL(13,8,2),MYGDIU(13,8,2)
36019      C
36020      C   DO 10 IG=1,MAXDIU
36021      C   IF (MY.LE.MYGDIU(IG,IV,IR)) GOTO 20
36022      C 10 CONTINUE
36023      C
36024      C Set default.
36025      C
36026      C   IG=1
36027      C   CALL QUITER(DIUVAL(IG,IV,IR),3,60,MY)
36028      C 20 DIURNL=DIUVAL(IG,IV,IR)
36029      C
36030      C   RETURN
36031      C   END
```



```

37000      FUNCTION XMPD(MY,IV,IR)
37001      C
37002      C   XMPD selects the yearly value for miles/day.
37003      C
37004      C   Called by CCEVRT.
37005      C
37006      C   Calls QUITER.
37007      C
37008      C   Input on call:
37009      C
37010      C       parameter list: MY,IV,IR
37011      C       common block: /XMPCOM/ MAXXMP,XMPVAL,MYGMPD
37012      C
37013      C   Output on return:
37014      C
37015      C       function: XMPD
37016      C
37017      C
37018      C       COMMON /XMPCOM/ MAXXMP,XMPVAL(2,8,2),MYGMPD(2,8,2)
37019      C
37020      C       DO 10 IG=1,MAXXMP
37021      C       IF (MY.LE.MYGMPD(IG,IV,IR)) GOTO 20
37022      C   10 CONTINUE
37023      C
37024      C   Set default.
37025      C
37026      C       IG=1
37027      C       CALL QUITER(XMPVAL(IG,IV,IR),4,60,MY)
37028      C   20 XMPD=XMPVAL(IG,IV,IR)
37029      C
37030      C       RETURN
37031      C       END

```

```
38000      FUNCTION CRANKC (MY,IV,IR)
38001      C
38002      C CRANKC selects the yearly value for crankcase HC.
38003      C
38004      C Called by CCEVRT.
38005      C
38006      C Calls QUITER.
38007      C
38008      C Input on call:
38009      C
38010      C   parameter list: MY,IV,IR
38011      C   common block: /CRACOM/ MAXCRA,CRAVAL,MYGCRA
38012      C
38013      C Output on return:
38014      C
38015      C   function: CRANKC
38016      C
38017      C
38018      C   COMMON /CRACOM/ MAXCRA,CRAVAL (3,8,2),MYGCRA (3,8,2)
38019      C
38020      C   DO 10 IG=1,MAXCRA
38021      C   IF (MY.LE.MYGCRA (IG,IV,IR)) GOTO 20
38022      C   10 CONTINUE
38023      C
38024      C Set default.
38025      C
38026      C   IG=1
38027      C   CALL QUITER (CRAVAL (IG,IV,IR),5,60,MY)
38028      C   20 CRANKC=CRAVAL (IG,IV,IR)
38029      C
38030      C   RETURN
38031      C   END
```

Appendix C: MOBILE3 Function BEF

June 7, 1984

```

39000      FUNCTION BEF (MY,IDX,ICY,IG,IP,IV,IR,VTAGE)
39001      C
39002      C BEF returns the basic emission factor adjusted for operating mode,
39003      C CO offset, methane offset, temperature, inspection / maintenance and
39004      C tampering offset.
39005      C
39006      C Called by EFCALX.
39007      C
39008      C Calls PCLEFT.
39009      C
39010      C Input on call:
39011      C
39012      C   parameter list: MY,IDX,ICY,IG,IP,IV,IR,VTAGE
39013      C   common blocks:
39014      C   /BEFCMD/ DRBEF
39015      C   /BEFCMZ/ ZMLBEF
39016      C   /OFFCOM/ OFFCO,OFFMTH
39017      C   /OMTCOM/ OMTCF,OMTTAM
39018      C
39019      C Output on return:
39020      C
39021      C   function: BEF
39022      C
39023      C Notes:
39024      C
39025      C The offsets (additive instead of MOBILE2's multiplicative) for CO bag 1
39026      C and methane were encoded. The new tampering offset was inserted.
39027      C The operating mode and temperature multiplicative correction factor was
39028      C split from the old CFRET and moved from EFCALX to BEF for application.
39029      C
39030      C
39031      C   COMMON /BEFCMD/ DRBEF (20,3,8,2)
39032      C   COMMON /BEFCMZ/ ZMLBEF (20,3,8,2)
39033      C   COMMON /OFFCOM/ OFFCO (20,3),OFFMTH (20,8)
39034      C   COMMON /OMTCOM/ OMTCF (20,3,8),OMTTAM (20,3,4)
39035      C
39036      C Look up base & deterioration rates and apply my cumulative mileage.
39037      C
39038      C   BEF=ZMLBEF (IG,IP,IV,IR)+DRBEF (IG,IP,IV,IR)*VTAGE
39039      C
39040      C Adjust for operating mode, offset model (CO, LDGV & LDGT only),
39041      C methane offset (HC only), temperature & inspection / maintenance.
39042      C
39043      C   IF (IV.LE.3.AND.IP.EQ.2)
39044      C *   BEF=(BEF*OMTCF (IDX,IP,IV)+OFFCO (IDX,IV))*PCLEFT (MY,ICY,IP,IV)
39045      C   IF (IP.EQ.1)
39046      C *   BEF=(BEF*OMTCF (IDX,IP,IV)-OFFMTH (IDX,IV))*PCLEFT (MY,ICY,IP,IV)
39047      C   IF (IP.EQ.3.OR.IV.GT.3.AND.IP.EQ.2)
39048      C *   BEF=BEF*OMTCF (IDX,IP,IV)*PCLEFT (MY,ICY,IP,IV)
39049      C
39050      C GV/T => add corrected (for op mode & temp) tampering bag emissions.
39051      C
39052      C   IF (IV.LE.4) BEF=BEF+OMTTAM (IDX,IP,IV)
39053      C
39054      C   RETURN
39055      C   END

```

```

40000      FUNCTION PCLEFT(MY,ICY,IP,IV)
40001      C
40002      C PCLEFT determines the basic emission factor multiplicative adjustment
40003      C ( = percentage left of BEF = PCLEFT ) for the effects of an inspection /
40004      C maintenance (I/M) program, after checking whether or not I/M applies to the
40005      C factor being computed by the calling function.
40006      C
40007      C Called by BEF.
40008      C
40009      C Input on call:
40010      C
40011      C   parameter list: MY,ICY,IP,IV
40012      C   common blocks:
40013      C   /FLAGS2/ IMFLAG
40014      C   /IMCR12/ CRED12
40015      C   /IMCR4P/ CRED4P
40016      C   /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
40017      C   /IMPAR2/ ILDT,ITEST,ICUTS
40018      C
40019      C Output on return:
40020      C
40021      C   function: PCLEFT
40022      C
40023      C Local array subscripts:
40024      C
40025      C MYGIM(10,3) - MYGIM ( ITECH, IVIM )
40026      C
40027      C Local variable / array dictionary:
40028      C
40029      C   Name      Type      Description
40030      C   -----
40031      C AGE1ST    I          age of the vehicle at first inspection
40032      C BY        I          benefit year for technology 1 or 2 vehicle
40033      C IBY       I          benefit year for technology 4 plus vehicle
40034      C IREM      I          remainder = stringency - greatest multiple of 10 < stringency
40035      C ISTRN     I          stringency index into technology 1 or 2 credits array
40036      C ITECH     I          emissions control technology as f(model year, vehicle type)
40037      C MYGIM     I          model year groups for I/M pollution control technologies
40038      C REM       R          IREM converted to REAL value
40039      C
40040      C Notes:
40041      C
40042      C PCLEFT has been completely rewritten. Credits are now read in and stored
40043      C as type REAL. Technology IV+ modeling is changed. For example, there are
40044      C 7 technology categories covered (4 thru 10) and IOPTN has been replaced by
40045      C IOPTN and ICUTS.
40046      C
40047      C
40048      C   INTEGER ALHFLG,ATPFLG
40049      C
40050      C   COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
40051      C   COMMON /IMCR12/ CRED12(19,20,5,2,2)
40052      C   COMMON /IMCR4P/ CRED4P(19,2,7,3,3)
40053      C   COMMON /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
40054      C   COMMON /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME(20,9)
40055      C
40056      C   INTEGER BY,IBY,AGE1ST,MYGIM(10,3)
40057      C

```


Appendix C: MOBILE3 Function PCLEFT

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```

40058 C ITECH = 4 does not occur for LDGT1/2 => repeat last year (1983) of previous
40059 C my group => value 4 will never be selected by technology search loop.
40060 C
40061 C DATA MYGIM/
40062 C ITECH: 1 2 3 4 5 6 7 8 9 10
40063 C LDGV
40064 C * 1974, 1979, 1980, 1981, 1982, 1983, 1984, 1986, 1989, 2020,
40065 C LDGT1
40066 C * 1974, 1980, 1983, 1983, 1984, 1985, 1986, 1987, 1989, 2020,
40067 C LDGT2
40068 C * 1978, 1980, 1983, 1983, 1984, 1985, 1986, 1987, 1989, 2020/
40069 C
40070 C Initialize PCLEFT to "no reduction" value = 1.0.
40071 C
40072 C PCLEFT = 1.0
40073 C
40074 C If factor being calculated by BEF is not covered by I/M, then RETURN.
40075 C
40076 C IF (IMFLAG.EQ.1.OR.IP.EQ.3.OR.IV.GT.3.OR.
40077 C * (IV.GT.1.AND.ILDT.EQ.1).OR.
40078 C * (IV.EQ.3.AND.ILDT.EQ.2).OR.
40079 C * (IV.EQ.2.AND.ILDT.EQ.3).OR.
40080 C * ICY.EQ.MY.OR.ICY.LE.ICYIM.OR.
40081 C * MY.LT.MODYR1.OR.MY.GT.MODYR2) GOTO 99
40082 C
40083 C Find the benefit year:
40084 C
40085 C BY=ICY-ICYIM
40086 C IF (MY.GT.ICYIM) BY=ICY-MY
40087 C IF (BY.GT.19) BY=19
40088 C
40089 C Find the age of the vehicle at first inspection.
40090 C
40091 C AGE1ST=1
40092 C IF (MY.LT.ICYIM) AGE1ST=ICYIM-MY+1
40093 C
40094 C Determine technology by model year and vehicle type. Note that because
40095 C MYGIM(10,IV) = 2020 for IV=1,2,3 = ICY upper bound (see PARSEC), a match in
40096 C the technology search loop has to occur. As with all the my index arrays in
40097 C MOBILE3, insure in any my changes that 2020 remains a my group upper bound.
40098 C
40099 C DO 10 ITECH=1,10
40100 C IF (MY.LE.MYGIM(ITECH,IV)) GOTO 20
40101 C 10 CONTINUE
40102 C
40103 C Technology 3 does not exist as a separate category in the credits arrays.
40104 C The percent reduction for technology 3 = that for technology 2.
40105 C
40106 C 20 IF (ITECH.EQ.3) ITECH=2
40107 C
40108 C Select correct I/M credits for TECH 1 & 2.
40109 C Interpolate between 10,20,30,40 & 30% stringency.
40110 C
40111 C IF (ITECH.GT.2) GOTO 40
40112 C
40113 C IREM=ISTRIN-(ISTRIN/10)*10
40114 C REM=IREM*.1
40115 C ISTRN=(ISTRIN-IREM)/10

```

Appendix C: MOBILE3 Function PCLEFT

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```

40116 C
40117 C Without mechanic training
40118 C
40119 IF (IMTFLG.EQ.2) GOTO 30
40120 PCRED=CRED12 (BY,AGE1ST,ISTRN,ITECH,IP)
40121 IF (ISTRN.LT.5.AND.IREM.GT.0) PCRED=
40122 * (CRED12 (BY,AGE1ST,ISTRN+1,ITECH,IP) -PCRED) *REM+PCRED
40123 GOTO 50
40124 C
40125 C With mechanic training
40126 C
40127 30 PCRED=CRED12 (20-BY,21-AGE1ST,ISTRN,ITECH,IP)
40128 IF (ISTRN.LT.5.AND.IREM.GT.0) PCRED=
40129 * (CRED12 (20-BY,21-AGE1ST,ISTRN+1,ITECH,IP) -PCRED) *REM+PCRED
40130 GOTO 50
40131 C
40132 C Select I/M credits for TECH 4-10 vehicles.
40133 C
40134 C ITEST = 1 : idle test
40135 C          2 : 2500 rpm idle test
40136 C          3 : loaded test
40137 C
40138 C ICUTS = 1 : 0.5% ICO / 100 ppm IHC
40139 C          2 : 1.2% ICO / 220 ppm IHC
40140 C          3 : 3.0% ICO / 300 ppm IHC
40141 C
40142 C
40143 C IP=1 (HC emissions)
40144 C IP=2 (CO emissions)
40145 C
40146 40 IBY = BY + AGE1ST - 1
40147 C
40148 PCRED=CRED4P (IBY,IP,ITECH-3,ICUTS,ITEST)
40149 C
40150 C Set I/M benefit.
40151 C
40152 50 PCLEFT = 1.0 - PCRED
40153 C
40154 99 RETURN
40155 END

```

```

41000      FUNCTION BEFIDL (IG,IP,IV,IR,VMTAGE)
41001      C
41002      C BEFIDL returns the basic idle emission factor adjusted by the methane
41003      C offset.
41004      C
41005      C Called by EFCALX.
41006      C
41007      C Input on call:
41008      C
41009      C   parameter list: IG,IP,IV,IR,VMTAGE
41010      C   common blocks:
41011      C   /FLAGS3/ NMHFLG
41012      C   /IDLCMD/ DRIDL
41013      C   /IDLCMZ/ ZMLIDL
41014      C
41015      C Output on return:
41016      C
41017      C   function: BEFIDL
41018      C
41019      C Local variable dictionary:
41020      C
41021      C   Name      Type      Description
41022      C   -----
41023      C   IDLMTH    R        methane offset to idle emission factor
41024      C
41025      C Notes:
41026      C
41027      C The methane adjustment was changed from a multiplicative to
41028      C a subtractive factor.
41029      C
41030      C
41031      C   REAL !DLMTH
41032      C   INTEGER PRTFLG
41033      C
41034      C   COMMON /FLAGS3/ IFORM, PRTFLG, ICEVFG, IDLFLG, NMHFLG
41035      C   COMMON /IDLCMD/ DRIDL (20,3,8,2)
41036      C   COMMON /IDLCMZ/ ZMLIDL (20,3,8,2)
41037      C
41038      C Determine idle methane offset.
41039      C
41040      C   IDLMTH=0.0
41041      C   IF (IP.NE.1.OR.NMHFLG.EQ.1) GOTO 10
41042      C   IF (IV.GE.5.AND.IV.LE.7) GOTO 10
41043      C   IDLMTH=0.015
41044      C   IF (IR.EQ.2) IDLMTH=0.025
41045      C
41046      C 10 BEFIDL=(ZMLIDL (IG,IP,IV,IR)+DRIDL (IG,IP,IV,IR)*VMTAGE)-IDLMTH
41047      C
41048      C No inspection / maintenance adjustment.
41049      C
41050      C   RETURN
41051      C   END

```

Appendix C: MOBILE3 Function IGEPTR

June 7, 1984

```

42000      FUNCTION IGEPTR (MY,IV,IR)
42001      C
42002      C IGEPTR selects the pointer to the fraction of vehicles equipped with A.C.
42003      C
42004      C Called by ALUH.
42005      C
42006      C Calls QUITER.
42007      C
42008      C Input on call:
42009      C
42010      C   parameter list: MY,IV,IR
42011      C   common block: /ALUPAC/ MYGACE
42012      C
42013      C Output on return:
42014      C
42015      C   function: IGEPTR
42016      C
42017      C
42018      C   COMMON /ALUPAC/ MYGACE (8,3,2),MYGACC (2,3,2)
42019      C
42020      C   DO 10 IG=1,8
42021      C   IF (MY.LE.MYGACE (IG,IV,IR)) GOTO 20
42022      C 10 CONTINUE
42023      C
42024      C Set default.
42025      C
42026      C   IG=1
42027      C   CALL QUITER (0.,6,61,MY)
42028      C 20 IGEPTR=IG
42029      C
42030      C   RETURN
42031      C   END

```



```

43000      FUNCTION IGUPTR(MY,IV,IR)
43001      C
43002      C IGUPTR selects the pointer to the fraction of vehicles using A.C.
43003      C
43004      C Called by ALUH.
43005      C
43006      C Calls QUITER.
43007      C
43008      C Input on call:
43009      C
43010      C   parameter list: MY,IV,IR
43011      C   common block: /ALUPAC/ MYGACC
43012      C
43013      C Output on return:
43014      C
43015      C   function: IGUPTR
43016      C
43017      C
43018      C   COMMON /ALUPAC/ MYGACC(8,3,2),MYGACC(2,3,2)
43019      C
43020      C   DO 10 IG=1,2
43021      C   IF(MY.LE.MYGACC(IG,IV,IR)) GOTO 20
43022      C   10 CONTINUE
43023      C
43024      C Set default.
43025      C
43026      C   IG=1
43027      C   CALL QUITER(0.,7,61,MY)
43028      C   20 IGUPTR=IG
43029      C
43030      C   RETURN
43031      C   END

```

```
44000      FUNCTION IGLPTR(MY,IV,IR)
44001      C
44002      C  IGLPTR selects the pointer to the fraction of vehicles with extra load.
44003      C
44004      C  Called by ALUH.
44005      C
44006      C  Calls QUITER.
44007      C
44008      C  Input on call:
44009      C
44010      C    parameter list: MY,IV,IR
44011      C    common block: /ALUPLT/ MYGXLC
44012      C
44013      C  Output on return:
44014      C
44015      C    function: IGLPTR
44016      C
44017      C
44018      C    COMMON /ALUPLT/ MYGXLC(6,3,2),MYGTWC(6,3,2)
44019      C
44020      C    DO 10 IG=1,6
44021      C      IF(MY.LE.MYGXLC(IG,IV,IR)) GOTO 20
44022      C    10 CONTINUE
44023      C
44024      C  Set default.
44025      C
44026      C    IG=1
44027      C    CALL QUITER(0.,8,61,MY)
44028      C    20 IGLPTR=IG
44029      C
44030      C    RETURN
44031      C    END
```

```
45000      FUNCTION IGPTR(MY,IV,IR)
45001      C
45002      C IGPTR selects the pointer to the fraction of vehicles with trailer in tow.
45003      C
45004      C Called by ALUH.
45005      C
45006      C Calls QUITER.
45007      C
45008      C Input on call:
45009      C
45010      C   parameter list: MY,IV,IR
45011      C   common block: /ALUPLT/ MYGTWC
45012      C
45013      C Output on return:
45014      C
45015      C   function: IGPTR
45016      C
45017      C
45018      C   COMMON /ALUPLT/ MYGXLC(6,3,2),MYGTWC(6,3,2)
45019      C
45020      C   DO 10 IG=1,6
45021      C   IF (MY.LE.MYGTWC(IG,IV,IR)) GOTO 20
45022      C 10 CONTINUE
45023      C
45024      C Set default.
45025      C
45026      C   IG=1
45027      C   CALL QUITER(0.,9,61,MY)
45028      C 20 IGPTR=IG
45029      C
45030      C   RETURN
45031      C   END
```

```
46000      FUNCTION IGPTR(MY,IP,IR,IV)
46001      C
46002      C IGPTR selects the pointer to the speed correction factor coefficients in
46003      C GPBCOF for HDGV, LDDV, LDDT and HDDV and the normalized bag fractions
46004      C in GPACOF for all IV except HDGV & HDDV.
46005      C
46006      C Called by BIGCFX.
46007      C
46008      C Calls QUITER.
46009      C
46010      C Input on call:
46011      C
46012      C   parameter list: MY,IP,IR,IV
46013      C   common block: /PTRCOM/ MAXIGP,MYGPBA
46014      C
46015      C Output on return:
46016      C
46017      C   function: IGPTR
46018      C
46019      C
46020      C   COMMON /PTRCOM/ MAXIGP,MYGPBA(13,3,2,8)
46021      C
46022      C   DO 10 IG=1,MAXIGP
46023      C   IF (MY.LE.MYGPBA(IG,IP,IR,IV)) GOTO 20
46024      C 10 CONTINUE
46025      C
46026      C Set default.
46027      C
46028      C   IG=1
46029      C   CALL QUITER(0.,10,61,MY)
46030      C 20 IGPTR=IG
46031      C
46032      C   RETURN
46033      C   END
```



```

47000      FUNCTION IERPTR(MY,IP,IV,IR)
47001      C
47002      C IERPTR selects the model year group pointer into the slope & intercept
47003      C arrays for the FTP and idle emission rate equations.
47004      C
47005      C Called by EFCALX and NEWERQ.
47006      C
47007      C Calls QUITER.
47008      C
47009      C Input on call:
47010      C
47011      C   parameter list: MY,IP,IV,IR
47012      C   common block: /ERQCOM/ MYGERQ
47013      C
47014      C Output on return:
47015      C
47016      C   function: IERPTR
47017      C
47018      C Notes:
47019      C
47020      C The do loop counter was changed from 15 to 20 and the inverse scan counter
47021      C was changed from 16 to 21.
47022      C
47023      C NEWERQ call for a new (unused) cell in IERPTR is keyed by MY = 0.
47024      C
47025      C
47026      C   COMMON /ERQCOM/ MYGERQ(20,2,3,8,2)
47027      C
47028      C   DO 10 IG=1,20
47029      C   JG=IG
47030      C   IF (MY.GT.0) JG=21-IG
47031      C   IF (MY.GE.MYGERQ(JG,1,IP,IV,IR).AND.
47032      C   * MY.LE.MYGERQ(JG,2,IP,IV,IR)) GOTO 20
47033      C 10 CONTINUE
47034      C
47035      C Set default.
47036      C
47037      C   JG=0
47038      C   IF (MY.EQ.0) GOTO 20
47039      C   JG=1
47040      C   CALL QUITER(0.,11,61,MY)
47041      C
47042      C 20 IERPTR=JG
47043      C   RETURN
47044      C   END

```

Appendix C: MOBILE3 Function ISPPTR

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```

48000      FUNCTION ISPPTR(MY,IR,IV)
48001      C
48002      C  ISPPTR selects the pointer to the bag speed normalization coefficients
48003      C  in AIN & the scf's in SPBACK for LDGV, LDGT1 and LDGT2.
48004      C
48005      C  Called by BIGCFX.
48006      C
48007      C  Calls QUITER.
48008      C
48009      C  Input on call:
48010      C
48011      C      parameter list: MY,IR,IV
48012      C      common block: /ISPCOM/ MYGSPD
48013      C
48014      C  Output on return:
48015      C
48016      C      function: ISPPTR
48017      C
48018      C
48019      C      COMMON /ISPCOM/ MYGSPD(21,2,3),MYGSMC(21,2,3)
48020      C
48021      C      DO 10 IG=1,21
48022      C      IF(MY.LE.MYGSPD(IG,IR,IV)) GOTO 20
48023      C  10 CONTINUE
48024      C
48025      C  Set default.
48026      C
48027      C      IG=1
48028      C      CALL QUITER(0.,12,61,MY)
48029      C  20 ISPPTR=IG
48030      C
48031      C      RETURN
48032      C      END

```

```
49000      FUNCTION ISPPT8(MY,IR,IP)
49001      C
49002      C  ISPPT8 selects the pointer to the bag speed normalization coefficients
49003      C  in AIN for MC (IV=8).
49004      C
49005      C  Called by BIGCFX.
49006      C
49007      C  Calls QUITER.
49008      C
49009      C  Input on call:
49010      C
49011      C    parameter list: MY,IR,IP
49012      C    common block: /ISPCOM/ MYGSMC
49013      C
49014      C  Output on return:
49015      C
49016      C    function: ISPPT8
49017      C
49018      C
49019      C    COMMON /ISPCOM/ MYGSPD (21,2,3),MYGSMC (21,2,3)
49020      C
49021      C    DO 10 IG=1,21
49022      C      IF (MY.LE.MYGSMC(IG,IR,IP)) GOTO 20
49023      C    10 CONTINUE
49024      C
49025      C  Set default.
49026      C
49027      C    IG=1
49028      C    CALL QUITER(0.,13,61,MY)
49029      C    20 ISPPT8=IG
49030      C
49031      C    RETURN
49032      C    END
```

```
50000      FUNCTION IEXMPT(MY,IV,IR)
50001      C
50002      C IEXMPT selects the pointer to the non-methane fractions.
50003      C
50004      C Called by EFCALX.
50005      C
50006      C Calls QUITER.
50007      C
50008      C Input on call:
50009      C
50010      C   parameter list: MY,IV,IR
50011      C   common block: /BEFGCM/ MYGEXM
50012      C
50013      C Output on return:
50014      C
50015      C   function: IEXMPT
50016      C
50017      C Notes:
50018      C
50019      C Change to subtractive methane offset => increase IG loop check value to 5.
50020      C
50021      C
50022      C   COMMON /BEFGCM/ EXMETH(3,5,8,2),MYGEXM(5,8,2)
50023      C
50024      C   DO 10 IG=1,5
50025      C   IF (MY.LE.MYGEXM(IG,IV,IR)) GOTO 20
50026      C 10 CONTINUE
50027      C
50028      C Set default.
50029      C
50030      C   IG=1
50031      C   CALL QUITER(0.,14,61,MY)
50032      C 20 IEXMPT=IG
50033      C
50034      C   RETURN
50035      C   END
```



```

51000      FUNCTION ITCPTR(MY,IP,IR,IV)
51001      C
51002      C ITCPTR selects the pointer to the temperature correction coefficients.
51003      C
51004      C Called by BIGCFX.
51005      C
51006      C Calls QUITER.
51007      C
51008      C Input on call:
51009      C
51010      C   parameter list: MY,IP,IR,IV
51011      C   common block: /TCCOM2/ MAXTCF,MYGTCF
51012      C
51013      C Output on return:
51014      C
51015      C   function: ITCPTR
51016      C
51017      C Notes:
51018      C
51019      C ITCPTR is a new subprogram (added for MOBILE3).
51020      C
51021      C
51022      C   COMMON /TCCOM2/ MAXTCF,MYGTCF (9,3,2,8)
51023      C
51024      C   DO 10 IG=1,MAXTCF
51025      C     IF (MY.LE.MYGTCF (IG,IP,IR,IV)) GOTO 20
51026      C   10 CONTINUE
51027      C
51028      C Set default.
51029      C
51030      C   IG=1
51031      C   CALL QUITER(0.,15,61,MY)
51032      C 20 ITCPTR=IG
51033      C
51034      C   RETURN
51035      C   END

```

```

52000      FUNCTION IGSFPT(MY,IV,IR)
52001      C
52002      C   IGSFPT selects the pointer to the gross sales fractions.
52003      C
52004      C   Called by EFCALX and REGMOD.
52005      C
52006      C   Calls QUITER.
52007      C
52008      C   Input on call:
52009      C
52010      C       parameter list: MY,IV,IR
52011      C       common blocks:
52012      C       /GSFCOM/ MAXGSF,MYGSF
52013      C
52014      C   Output on return:
52015      C
52016      C       function: IGSFPT
52017      C
52018      C
52019      C       COMMON /GSFCOM/ MAXGSF,GSFRAC(22,8,2),MYGSF(22,8,2)
52020      C
52021      C       DO 10 IG=1,MAXGSF
52022      C       IF (MY.LE.MYGSF(IG,IV,IR)) GOTO 20
52023      C       10 CONTINUE
52024      C
52025      C   Set default for case where my exceeds highest year in MYGSF, given IV & IR.
52026      C
52027      C       IG=1
52028      C       CALL QUITER(0.,16,61,MY)
52029      C       20 IGSFPT=IG
52030      C
52031      C       RETURN
52032      C       END

```

```

53000      FUNCTION IGDPTR(ICASE)
53001      C
53002      C IGDPTR returns the pointer to the model year group cell location holding
53003      C the desired data point, given MY. ICASE identifies the calling CSECT
53004      C location and hence the array to be indexed and thus the my groups array
53005      C to search for the pointer. Only tampering subroutines use this function.
53006      C
53007      C Called by EFFGRP, EMIRAT and EVPEME.
53008      C
53009      C Input on call:
53010      C
53011      C   parameter list: ICASE
53012      C   common blocks:
53013      C   /LOOKUP/ IVTAM,IQG,IHG
53014      C   /MYCODE/ MY
53015      C   /MYUBPT/ MYTGS,MYEGR,MYVTS,MYVEI
53016      C
53017      C Output on return:
53018      C
53019      C   function: IGDPTR
53020      C
53021      C Notes:
53022      C
53023      C Differences from the other pointer functions:
53024      C   (1) 4 different my group arrays are handled by this 1 subroutine, instead
53025      C       of having a separate function for each case.
53026      C   (2) IGDPTR assumes no default value, as the others do. I.e. the typical
53027      C       code:
53028      C           C
53029      C           C..Set default
53030      C           C
53031      C           IG=1
53032      C           CALL QUITER(0.,6,61,MY)
53033      C       is not inserted after each search loop. All the my arrays have 2020,
53034      C       the highest ICY allowed by subroutine input, as the last non-dummy
53035      C       upper bound. Hence, an in-range match has to occur.
53036      C
53037      C
53038      C   COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
53039      C   COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
53040      C   COMMON /MYUBPT/ MYTGS(10,6,4),MYEGR(4,4),MYVTS(3,2,4),MYVEI(11,2,4)
53041      C
53042      C Branch to array pointer loop being asked for by ICASE.
53043      C
53044      C   GOTO(10,30,50,70),ICASE
53045      C
53046      C Case 1: find MY's cell in TGS.
53047      C
53048      C   10 DO 20 IG=1,10
53049      C       IF(MY.LE.MYTGS(IG,IQG,IVTAM)) GOTO 90
53050      C   20 CONTINUE
53051      C
53052      C Case 2: find MY's cell in EMEGR.
53053      C
53054      C   30 DO 40 IG=1,4
53055      C       IF(MY.LE.MYEGR(IG,IVTAM)) GOTO 90
53056      C   40 CONTINUE
53057      C

```

Appendix C: MOBILE3 Function IGDPTR

June 7, 1984

```
53058 C Case 3: find MY's cell in EVPTGS.
53059 C
53060 50 DO 60 IG=1,3
53061 IF (MY.LE.MYVTS(IG,IHG,IVTAM)) GOTO 90
53062 60 CONTINUE
53063 C
53064 C Case 4: find MY's cell in EVPEMI.
53065 C
53066 70 DO 80 IG=1,11
53067 IF (MY.LE.MYVEI(IG,IHG,IVTAM)) GOTO 90
53068 80 CONTINUE
53069 C
53070 C Assign cell number.
53071 C
53072 90 IGDPTR=IG
53073 C
53074 RETURN
53075 END
```



```

54000      SUBROUTINE OUTPUT(ICY)
54001      C
54002      C   OUTPUT writes scenario results on unit IOUREP.
54003      C
54004      C   Called by MAIN.
54005      C
54006      C   Calls OUTDT1, OUTDT2, OUTDT3, OUTDT4, OUTHD1, OUTHD2, OUTHD3 and OUTHD4.
54007      C
54008      C   Input on call:
54009      C
54010      C       parameter list: ICY
54011      C       common blocks:
54012      C       /FLAGS2/ NEWFLG
54013      C       /FLAGS3/ IFORM
54014      C       /NEWCOM/ NEWPAR,NEWFIT,NEWCT
54015      C       /REGCOM/ IREJN
54016      C       /RESULT/ EFFTP,WFTP,EFEVAP,EFIDLE,WIDLE
54017      C       /SYSCOM/ INITPR
54018      C
54019      C   Output on return:
54020      C
54021      C       parameter list: WIDLE
54022      C
54023      C   Notes:
54024      C
54025      C   Subroutines OUTTAM & OUTATP were added, OUTHD1 & OUTDT1 deleted,
54026      C   OUTHD0 & OUTDT0 renamed OUTHD1 & OUTDT1, respectively, the calls to
54027      C   OUTTAM, OUTNEW, OUTIMP, OUTATP and OUTMTH put into the run header subs,
54028      C   and all formats updated.
54029      C
54030      C
54031      C       INTEGER ALHFLG,ATPFLG,PRTFLG
54032      C
54033      C       COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
54034      C       COMMON /FLAGS3/ IFORM,PRTFLG,ICEVFG,IDLFLG,NMHFLG
54035      C       COMMON /NEWCOM/ NEWPAR(5,100),BERNEW(2,100),NEWFIT(100),NEWCT
54036      C       COMMON /REGCOM/ IREJN,ALT
54037      C       COMMON /RESULT/ EFFTP(3,9),WFTP(3),EFEVAP(9),EFIDLE(3,9),WIDLE(3)
54038      C       COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
54039      C
54040      C       IF (NEWFLG.EQ.1) GOTO 20
54041      C
54042      C   Zero idle total for any IP with new (user supplied replacement) equation
54043      C   for current IREJN.
54044      C
54045      C       DO 10 IFAC=1,NEWCT
54046      C       IF (NEWFIT(IFAC).EQ.0) GOTO 10
54047      C       IR=NEWPAR(1,IFAC)
54048      C       IF (IR.NE.IREJN) GOTO 10
54049      C       IP=NEWPAR(3,IFAC)
54050      C       WIDLE(IP)=0.0
54051      C   10 CONTINUE
54052      C
54053      C   Select report format.
54054      C
54055      C   20 GOTO (30,40,50,60),IFORM
54056      C
54057      C   IFORM=1

```

Appendix C: MOBILE3 Subroutine OUTPUT

June 7, 1984

```
54058 C
54059 30 IF (INITPR.EQ.1) CALL OUTHD1
54060 CALL OUTDT1(ICY)
54061 GOTO 99
54062 C
54063 C IFORM=2
54064 C
54065 40 IF (INITPR.EQ.1) CALL OUTHD2
54066 CALL OUTDT2(ICY)
54067 GOTO 99
54068 C
54069 C IFORM=3
54070 C
54071 50 IF (INITPR.EQ.1) CALL OUTHD3
54072 CALL OUTDT3(ICY)
54073 GOTO 99
54074 C
54075 C IFORM=4
54076 C
54077 60 IF (INITPR.EQ.1) CALL OUTHD4
54078 CALL OUTDT4(ICY)
54079 C
54080 99 RETURN
54081 END
```

```

55000      SUBROUTINE OUTHD1
55001      C
55002      C OUTHD1 writes the run header on unit IOUREP using output format (IFORM) 1.
55003      C The header consists of the run title and the scenario output table header.
55004      C
55005      C Called by OUTPUT.
55006      C
55007      C Calls OUTHDR.
55008      C
55009      C Input on call:
55010      C
55011      C   common block: /IOUCOM/ IOUREP
55012      C
55013      C Local array subscript:
55014      C
55015      C NAMVEH(6) - NAMVEH ( IVM1 )
55016      C
55017      C Local array dictionary:
55018      C
55019      C   Name      Type      Description
55020      C   -----
55021      C NAMVEH      I      vehicle class names for output format 1
55022      C
55023      C
55024      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
55025      C
55026      C   DIMENSION NAMVEH(6)
55027      C
55028      C   DATA NAMVEH/
55029      C   * 'LDV ',
55030      C   * 'LDT1',
55031      C   * 'LDT2',
55032      C   * 'HDG ',
55033      C   * 'HDD ',
55034      C   * 'MC '/
55035      C
55036      C   CALL OUTHDR(IOUREP)
55037      C
55038      C   WRITE (IOUREP,200) NAMVEH,NAMVEH
55039      C 200 FORMAT (
55040      C   * 'O', 'R', 41X, 'P' /
55041      C   * ' ', 'e', 8X, 'Speeds', 5X, 'Amb.', 18X, 'o', 8X,
55042      C   * 'Composite Emission Factors', 18X, 'Vehicle Mix', 16X, 'C.E.F.' /
55043      C   * ' ', 'g CY LD HD MC Tmp Cold/Hot Start 1',
55044      C   * 6(3X, A4),
55045      C   * 6(2X, A4), 'All Veh' /
55046      C   * ' ', ' - ', 14( ' - ' ), ' --- ', 16( ' - ' ),
55047      C   * ' - ', 41( ' - ' ),
55048      C   * 1X, 35( ' - ' ), 1X, 6( ' - ' ) )
55049      C
55050      C   RETURN
55051      C   END

```

```

56000      SUBROUTINE OUTHD2
56001      C
56002      C OUTHD2 writes the run header on unit IOUREP using output format (IFORM) 2.
56003      C The header consists of the run title and the scenario output table header.
56004      C
56005      C Called by OUTPUT.
56006      C
56007      C Calls OUTHDR.
56008      C
56009      C Input on call:
56010      C
56011      C   common blocks:
56012      C   /IOUCOM/ IOUREP
56013      C   /SYSCOM/ MAXVEH
56014      C
56015      C Local array subscript:
56016      C
56017      C NAMVEH(9) - NAMVEH ( IVF2 )
56018      C
56019      C Local variable / array dictionary:
56020      C
56021      C   Name      Type      Description
56022      C   -----
56023      C MAXV      I      maximum number of vehicle class types for format 2 = 9
56024      C NAMVEH    R*8     names of vehicle class types for output format 2
56025      C
56026      C
56027      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
56028      C   COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
56029      C
56030      C   REAL*8 NAMVEH(9)
56031      C
56032      C   DATA NAMVEH/
56033      C   *'LDGV', 'LDGT1', 'LDGT2', 'LDGT', 'HDGV',
56034      C   *'LDDV', 'LDDT', 'HDDV', 'MC',
56035      C
56036      C   CALL OUTHDR(IOUREP)
56037      C
56038      C   MAXV=MAXVEH+1
56039      C   WRITE (IOUREP,200) NAMVEH, (NAMVEH(IVF2),IVF2=1,3),
56040      C   * (NAMVEH(IVF2),IVF2=5,MAXV)
56041      C 200 FORMAT (
56042      C   *'O', 'C R', *Code A*'/
56043      C   *' ', 'o e', 44X, 'Amb.'/
56044      C   *' ', 'd g CY', 13X, 'Vehicle Speeds', 14X, 'Tmp Cold/Hot Start',
56045      C   * ' ', 'Alt.'/
56046      C   *' ', ' - - - ', 39(' '), ' - - - ', 16(' '), 1X, 6(' ')//
56047      C   *' ', 'C P', *Code B*'/
56048      C   *' ', 'o o', 18X, 'Composite Emission Factors'/
56049      C   *' ', 'd l', 9(2X, A5)/
56050      C   *' ', ' - - ', 63(' ')//
56051      C   *' ', 'C', *Code C*'/
56052      C   *' ', 'o', 19X, 'Vehicle Mix', 19X, 'C.E.F.'/
56053      C   *' ', 'd', 8(1X, A5), 'All Veh'/
56054      C   *' ', ' - ', 47(' '), 1X, 6(' ')
56055      C
56056      C   RETURN
56057      C   END

```



```

57000      SUBROUTINE OUTHD3
57001      C
57002      C OUTHD3 writes the run header on unit IOUREP using output format (IFORM) 3.
57003      C The header consists of the run title and a partial echo of user selected
57004      C options and data.
57005      C
57006      C Called by OUTPUT.
57007      C
57008      C Calls OUTATP, OUTHDR, OUTIMP, OUTMTH, OUTNEW, OUTTAM and USDPTR.
57009      C
57010      C Input on call:
57011      C
57012      C   common blocks:
57013      C   /FLAGS1/ TAMFLG
57014      C   /FLAGS2/ NEWFLG, IMFLAG, ATPFLG
57015      C   /IOUCOM/ IOUREP
57016      C
57017      C
57018      C   INTEGER TAMFLG, SPDFLG, VMFLAG, ALHFLG, ATPFLG
57019      C
57020      C   COMMON /FLAGS1/ IPROMT, TAMFLG, SPDFLG, VMFLAG
57021      C   COMMON /FLAGS2/ MYMRFG, NEWFLG, IMFLAG, ALHFLG, ATPFLG
57022      C   COMMON /IOUCOM/ IOUAER, IOUIMD, IOUGEN, IOUREP, IOUERR, IOUASK
57023      C
57024      C   CALL OUTHDR(IOUREP)
57025      C
57026      C   IF (TAMFLG.EQ.2) CALL OUTTAM
57027      C
57028      C   IF (NEWFLG.EQ.2) CALL OUTNEW
57029      C
57030      C   IF (IMFLAG.EQ.2) CALL OUTIMP
57031      C
57032      C   IF (ATPFLG.EQ.2) CALL OUTATP
57033      C
57034      C   CALL OUTMTH
57035      C
57036      C   WRITE (IOUREP,200)
57037      200 FORMAT('O',112(' '))
57038      C
57039      C   CALL USDPTR
57040      C
57041      C   RETURN
57042      C   END

```

```

58000      SUBROUTINE OUTHD4
58001      C
58002      C OUTHD4 writes the run header on unit IOUREP using output format (IFORM) 4.
58003      C The header consists of the run title and a partial echo of user selected
58004      C options and data.
58005      C
58006      C Called by OUTPUT.
58007      C
58008      C Calls OUTATP, OUTHDR, OUTIMP, OUTMTH, OUTNEW, OUTTAM and USDPTR.
58009      C
58010      C Input on call:
58011      C
58012      C   common blocks:
58013      C   /FLAGS1/ TAMFLG
58014      C   /FLAGS2/ NEWFLG,IMFLAG,ATPFLG
58015      C   /IOUCOM/ IOUREP
58016      C
58017      C
58018      C   INTEGER TAMFLG,SPDFLG,VMFLAG,ALHFLG,ATPFLG
58019      C
58020      C   COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
58021      C   COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
58022      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
58023      C
58024      C   CALL OUTHDR(IOUREP)
58025      C
58026      C   IF (TAMFLG.EQ.2) CALL OUTTAM
58027      C
58028      C   IF (NEWFLG.EQ.2) CALL OUTNEW
58029      C
58030      C   IF (IMFLAG.EQ.2) CALL OUTIMP
58031      C
58032      C   IF (ATPFLG.EQ.2) CALL OUTATP
58033      C
58034      C   CALL OUTMTH
58035      C
58036      C   WRITE (IOUREP,200)
58037      C 200 FORMAT('O',80('_'))
58038      C
58039      C   CALL USDPTR
58040      C
58041      C   RETURN
58042      C   END

```

Appendix C: MOBILE3 Subroutine OUTHDR

June 7, 1984

```
59000      SUBROUTINE OUTHDR(10UOUT)
59001      C
59002      C   OUTHDR writes the run title on unit 10UOUT.
59003      C
59004      C   Called by CONSEC, OUTHD1, OUTHD2, OUTHD3 and OUTHD4.
59005      C
59006      C   Input on call:
59007      C
59008      C       parameter list: 10UOUT
59009      C       common block: /PROJCM/ PROJID
59010      C
59011      C   Output on return:
59012      C
59013      C       common block: /SYSCOM/ INITPR
59014      C
59015      C
59016      COMMON /PROJCM/ PROJID(20)
59017      COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
59018      C
59019      INITPR=0
59020      C
59021      WRITE(10UOUT,200) PROJID
59022      200 FORMAT('1',20A4)
59023      C
59024      RETURN
59025      END
```

Appendix C: MOBILE3 Subroutine OUTTAM

June 7, 1984

```

60000      SUBROUTINE OUTTAM
60001      C
60002      C   OUTTAM prints the user supplied replacement tampering rates.
60003      C
60004      C   Called by OUTHD3 and OUTHD4.
60005      C
60006      C   Input on call:
60007      C
60008      C       common blocks:
60009      C       /BASETR/ ZMLTAM,DRTAM
60010      C       /FLAGS2/ IMFLAG
60011      C       /FLAGS3/ IFORM
60012      C       /IOUCOM/ IOUREP
60013      C
60014      C   Local array subscripts:
60015      C
60016      C   DISABL(2,7) - DISABL ( ICH , ID )
60017      C   IMTYPE(3,2) - IMTYPE ( ITY , IM )
60018      C   USC(4)      - USC ( ISC )
60019      C
60020      C   Local variable / array dictionary:
60021      C
60022      C   Name      Type      Description
60023      C   -----
60024      C   ADET      R      column heading for deterioration rates
60025      C   AZML      R      column heading for zero mile levels
60026      C   DISABL    R*8     names of disablement categories
60027      C   IMTYPE    I      non-I/M and I/M tampering rates table headings
60028      C   USC       I      underscore strings for table and column headings
60029      C
60030      C   Notes:
60031      C
60032      C   OUTTAM is a new subprogram (added for MOBILE3).
60033      C
60034      C
60035      C       INTEGER ALHFLG,ATPFLG,PRTFLG
60036      C       INTEGER IMTYPE (3,2) ,USC (4)
60037      C       REAL*8 DISABL (2,7)
60038      C
60039      C       COMMON /BASETR/ BTR (7,2) ,ZMLTAM (7,2,4) ,DRTAM (7,2,4)
60040      C       COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
60041      C       COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
60042      C       COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
60043      C
60044      C       DATA IMTYPE/'Non-','I/M ','Case',' I/','M Ca','se '/
60045      C       DATA AZML/'ZML ','/','ADET/'DET '/
60046      C       DATA USC/' ',' ',' ',' ',' ',' ',' '/
60047      C       DATA DISABL/'Air Pump',' ',' ',' ',' ',' ',' '/
60048      C       *          'Catalyst',' ',' ',' ',' ',' ',' '/
60049      C       *          'Fuel Inl','et ',' ',' ',' ',' ',' '/
60050      C       *          'Other Mi','sfueling',' ',' ',' ',' ',' '/
60051      C       *          'EGR Syst','em ',' ',' ',' ',' ',' '/
60052      C       *          'Evap Can','ister ',' ',' ',' ',' ',' '/
60053      C       *          'PCV Syst','em ',' ',' ',' ',' ',' '/
60054      C
60055      C       WRITE (IOUREP,200)
60056      C       200 FORMAT('O',
60057      C           *'Replacement Tampering and Misfueling Rates Input by User:')

```



```

60058      C
60059      DO 10 IM=1,IMFLAG
60060      C
60061      IF (IFORM.EQ.4) WRITE (IOUREP,210)
60062      * (IMTYPE (ITY,IM),ITY=1,3),
60063      * (USC (4),ISC=1,5),USC (1),USC (4),USC (1),USC (4),
60064      * (AZML,ADET,ITER=1,4),
60065      * (USC (4),ISC=1,4),USC (2), (USC (4),USC (4),USC (3),ISC=1,4),
60066      * ((DISABL (ICH,ID),ICH=1,2), (ZMLTAM (ID,IM,IVTAM),DRTAM (ID,IM,IVTAM),
60067      *                                     IVTAM=1,4),ID=1,7)
60068      C
60069      210 FORMAT ('O',T45,3A4/'+',T45,3A4/
60070      * 'O',T26,'LDGV',T41,'LDGT1',T56,'LDGT2',T71,'HDGV'/
60071      * '+',T26,A4,T41,2A4,T56,2A4,T71,A4/
60072      * 'O',T6,'Component',T19,'|',4(3X,A4,4X,A4)/
60073      * '+',T2,5A4,4(A4,' ',2A4)/
60074      * (' ',2A8,T19,'|',T21,4(F7.4,F8.5)))
60075      C
60076      IF (IFORM.EQ.3) WRITE (IOUREP,220)
60077      * (IMTYPE (ITY,IM),ITY=1,3),
60078      * (USC (4),ISC=1,5),USC (1),USC (4),USC (1),USC (4),
60079      * (AZML,ADET,ITER=1,4),
60080      * (USC (4),ISC=1,4),USC (2), (USC (4),USC (2),USC (4),USC (3),ISC=1,4),
60081      * ((DISABL (ICH,ID),ICH=1,2), (ZMLTAM (ID,IM,IVTAM),DRTAM (ID,IM,IVTAM),
60082      *                                     IVTAM=1,4),ID=1,7)
60083      C
60084      220 FORMAT ('O',T54,3A4/'+',T54,3A4/
60085      * 'O',T29,'LDGV',T48,'LDGT1',T67,'LDGT2',T86,'HDGV'/
60086      * '+',T29,A4,T48,2A4,T67,2A4,T86,A4/
60087      * 'O',T6,'Component',T19,'|',4(5X,A4,6X,A4)/
60088      * '+',T2,5A4,4(2X,2A4,' ',2A4)/
60089      * (' ',2A8,T19,'|',T21,4(2X,F7.4,2X,F8.5)))
60090      C
60091      10 CONTINUE
60092      C
60093      RETURN
60094      END

```

Appendix C: MOBILE3 Subroutine OUTNEW

June 7, 1984

```

61000      SUBROUTINE OUTNEW
61001      C
61002      C OUTNEW writes out the new (user supplied replacement) basic emission
61003      C rate parameters and data.
61004      C
61005      C Called by OUTHD3 and OUTHD4.
61006      C
61007      C Input on call:
61008      C
61009      C common blocks:
61010      C /IOUCOM/ IOUREP
61011      C /NEWCOM/ NEWPAR,BERNEW,NEWFIT,NEWCT
61012      C /STRING/ NOYES
61013      C
61014      C
61015      COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
61016      COMMON /NEWCOM/ NEWPAR(5,100),BERNEW(2,100),NEWFIT(100),NEWCT
61017      COMMON /STRING/ NOYES(2),COMMA,PERIOD
61018      C
61019      C
61020      WRITE(IOUREP,200)
61021      200 FORMAT(
61022      *'O',T16,'Emission Factor Modification Profile'/
61023      *'+',T16,'_____'/'
61024      *'O','Region Veh. Pollutant First MY Last MY Base ',
61025      * 'DR Altered'/
61026      *'+', '_____'
61027      * '_____'')
61028      C
61029      DO 10 IFAC=1,NEWCT
61030      INO=1
61031      IF (NEWFIT(IFAC).EQ.1) INO=2
61032      WRITE(IOUREP,210)
61033      * (NEWPAR(1,IFAC),I=1,5), (BERNEW(1,IFAC),I=1,2),NOYES(INO)
61034      210 FORMAT(' ',2X,11,7X,11,8X,11,2X,2(5X,14),2X,2(2X,F6.2),4X,A4)
61035      10 CONTINUE
61036      C
61037      RETURN
61038      END

```

```

62000      SUBROUTINE OUTIMP
62001      C
62002      C OUTIMP prints the I/M program parameters and the alternate I/M credits
62003      C set name, if it was entered.
62004      C
62005      C Called by OUTHD3 and OUTHD4.
62006      C
62007      C Input on call:
62008      C
62009      C common blocks:
62010      C /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
62011      C /IMPAR2/ ILDT,ITEST,ICUTS,NLIM,IMNAME
62012      C /IOUCOM/ IOUREP
62013      C /STRING/ NOYES,COMMA
62014      C
62015      C Local array subscripts:
62016      C
62017      C CUTCO(3) - CUTCO ( ICUTS )
62018      C CUTHC(3) - CUTHC ( ICUTS )
62019      C TTYPE(4,3) - TTYPE ( ICH, ITEST )
62020      C
62021      C Local variable / array dictionary:
62022      C
62023      C      Name      Type      Description
62024      C      -----
62025      C CUTCO      R      labels for testing cuts for CO, in percents
62026      C CUTHC      R      labels for testing cuts for HC, in ppm IHC
62027      C ICO        I      ICO label
62028      C LDGT        I      LDGT label
62029      C LDGV        I      LDGV label
62030      C ONE        R      number 1 as character
62031      C PPMIHC     R*8     ppm IHC label
62032      C SLASH      R      character '/'
62033      C TTYPE      R      test type description
62034      C TWO        R      number 2 as character
62035      C
62036      C Notes:
62037      C
62038      C Output formats were updated to reflect new I/M methodology, including
62039      C replacing IOPTN with ITEST and ICUTS.
62040      C
62041      C
62042      COMMON /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
62043      COMMON /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME(20,9)
62044      COMMON /IOUCOM/ IOUAE,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
62045      COMMON /STRING/ NOYES(2),COMMA,PERIOD
62046      C
62047      DIMENSION TTYPE(4,3),CUTCO(3),CUTHC(3)
62048      REAL*8 PPMIHC
62049      C
62050      DATA LDGV,LDGT,ONE,TWO/'LDGV','LDGT','1','2' '/'
62051      DATA TTYPE/'Idle',' ',' ',' ',' ',' ',' ',' ',' ',' '
62052      2      '2500','rpm',' / ',' ',' ',' ',' ',' ',' '
62053      3      'Load','ed /',' ',' ',' ',' ',' ',' ',' '
62054      DATA CUTCO/'0.5%','1.2%','3.0%','/','ICO','ICO'/'
62055      DATA SLASH/' / '
62056      DATA CUTHC/' 100',' 220',' 300'//,PPMIHC/' ppm IHC'/'
62057      C

```

Appendix C: MOBILE3 Subroutine OUTIMP

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```

62058      WRITE(IOUREP,200) ICYIM,ISTRIN,NOYES (IMTFLG),MODYR1,MODYR2
62059      200 FORMAT('0','1/M program selected: '/
62060      *      '0','1'      Start year (January 1):      ',14/
62061      *      ' ','1'      Pre-1981 MYR stringency rate:  ',12,'%'/
62062      *      ' ','1'      Mechanic training program?:    ',A4/
62063      *      ' ','1'      First model year covered:      ',14/
62064      *      ' ','1'      Last model year covered:       ',14)
62065  C
62066      IF (ILDT.EQ.1) WRITE (IOUREP,210) LDGV
62067      IF (ILDT.EQ.2) WRITE (IOUREP,210) LDGV,COMMA,LDGT,ONE
62068      IF (ILDT.EQ.3) WRITE (IOUREP,210) LDGV,COMMA,LDGT,TWO
62069      IF (ILDT.EQ.4) WRITE (IOUREP,210) LDGV,COMMA,LDGT,ONE,COMMA,LDGT,TWO
62070      210 FORMAT(' ','1'      Vehicle types covered:      ',
62071      *      A4,A2,A4,A1,A2,A4,A1)
62072  C
62073      WRITE (IOUREP,220) (TTYPE (ICH, ITEST), ICH=1,4),
62074      *      CUTCO (ICUTS), ICO, SLASH, CUTHC (ICUTS), PPMIHC
62075      220 FORMAT(' ','1'      1981 & later MYR test type:  ',4A4/
62076      *      ' ','1'      1981 & later MYR test cutpoints: ',2A4,A2,A4,A8)
62077  C
62078      IF (NLIM.EQ.0) GOTO 99
62079      WRITE (IOUREP,230)
62080      230 FORMAT(' ')
62081      DO 10 LINES=1,NLIM
62082      WRITE (IOUREP,240) (IMNAME (N,LINES), N=1,20)
62083      240 FORMAT(' ','1,20A4)
62084      10 CONTINUE
62085  C
62086      99 RETURN
62087      END

```



```

63000      SUBROUTINE OUTATP
63001      C
63002      C OUTATP prints the ATP program parameters and the ATP effectiveness rates
63003      C set name, if it was entered.
63004      C
63005      C Called by OUTHD3 and OUTHD4.
63006      C
63007      C Input on call:
63008      C
63009      C   common blocks:
63010      C   /ATPPAR/ LAPSY,LAP1ST,LAPLST,LVTFLG,NLAT,ATNAME
63011      C   /IOUCOM/ IOUREP
63012      C   /STRING/ COMMA
63013      C
63014      C Local array subscripts:
63015      C
63016      C   IVPTR(4) - IVPTR ( NCOVER )
63017      C   VNAME(4) - VNAME ( NCOVER )
63018      C
63019      C Local variable / array dictionary:
63020      C
63021      C   Name      Type      Description
63022      C   -----
63023      C   IVPTR      I      pointer vector into VNAME
63024      C   NCOMMA      I      number of '<vehicle class name>,' substrings to be written
63025      C   NCOVER      I      number of vehicle classes covered by the A-T program
63026      C   VNAME      R*8     A-T program vehicle class names
63027      C
63028      C Notes:
63029      C
63030      C OUTATP is a new subprogram (added for MOBILE3).
63031      C
63032      C
63033      C   REAL*8 VNAME(4)
63034      C   DIMENSION IVPTR(4)
63035      C
63036      C   COMMON /ATPPAR/ LAPSY,LAP1ST,LAPLST,LVTFLG(4),NLAT,ATNAME(20,9)
63037      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
63038      C   COMMON /STRING/ NOYES(2),COMMA,PERIOD
63039      C
63040      C   DATA VNAME/'LDGV  ', 'LDGT1  ', 'LDGT2  ', 'HDGV  '/
63041      C
63042      C   WRITE (IOUREP,200) LAPSY,LAP1ST,LAPLST
63043      C 200 FORMAT('0','Anti-tampering program selected: '/
63044      C   *      '0',' Start year (January 1): ',14/
63045      C   *      ' ', ' First model year covered: ',14/
63046      C   *      ' ', ' Last model year covered: ',14)
63047      C
63048      C   NCOVER=0
63049      C   DO 10 IVTAM=1,4
63050      C   IF (LVTFLG(IVTAM).EQ.1) GOTO 10
63051      C   NCOVER=NCOVER+1
63052      C   IVPTR(NCOVER)=IVTAM
63053      C 10 CONTINUE
63054      C
63055      C   IF (NCOVER.EQ.1) WRITE (IOUREP,210) VNAME (IVPTR(1))
63056      C   NCOMMA=NCOVER-1
63057      C   IF (NCOVER.GT.1)

```

Appendix C: MOBILE3 Subroutine OUTATP

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```

63058      * WRITE(IOUREP,210) (VNAME(IVPTR(12ND)),COMMA,12ND=1,NCOMMA),
63059      *      VNAME(IVPTR(NCOVER))
63060      210 FORMAT(' ', ' Vehicle types covered: ',3(A5,A2),A5)
63061  C
63062      IF(NLAT.EQ.0) GOTO 99
63063      WRITE(IOUREP,230)
63064      230 FORMAT(' ')
63065      DO 20 LINES=1,NLAT
63066      WRITE(IOUREP,240) (ATNAME(ICH,LINES),ICH=1,20)
63067      240 FORMAT(' ',20A4)
63068      20 CONTINUE
63069  C
63070      99 RETURN
63071      END

```

```

64000      SUBROUTINE OUTMTH
64001      C
64002      C OUTMTH writes evaporative HC message on unit IOUREP.
64003      C
64004      C Called by OUTHD3 and OUTHD4.
64005      C
64006      C Input on call:
64007      C
64008      C   common blocks:
64009      C   /FLAGS3/ NMHFLG
64010      C   /IOUCOM/ IOUREP
64011      C
64012      C Local array subscripts:
64013      C
64014      C   NONMTH(3) - NONMTH ( ICH )
64015      C   REMARK(15) - REMARK ( ICH )
64016      C   TOTAL(2) - TOTAL ( ICH )
64017      C
64018      C Local variable / array dictionary:
64019      C
64020      C   Name      Type      Description
64021      C   -----
64022      C   NONMTH    I      character string 'Non-methane '
64023      C   REMARK    R      character string comment that HC ef's include evap ef's
64024      C   TOTAL    R      character string 'Total '
64025      C
64026      C
64027      C   INTEGER PRTFLG
64028      C
64029      C   COMMON /FLAGS3/ IFORM, PRTFLG, ICEVFG, IDLFLG, NMHFLG
64030      C   COMMON /IOUCOM/ IOUAER, IOUIMD, IOUGEN, IOUREP, IOUERR, IOUASK
64031      C
64032      C   DIMENSION TOTAL(2), NONMTH(3), REMARK(15)
64033      C
64034      C   DATA TOTAL/'Tota','1' '/'
64035      C
64036      C   DATA NONMTH/'Non-','meth','ane '/'
64037      C
64038      C   DATA REMARK/
64039      C   *'HC e','miss','ion ','fact','ors ','incl','ude ',
64040      C   *'evap','orat','ive ','HC e','miss','ion ','fact','ors.'/
64041      C
64042      C   IF (NMHFLG.EQ.1) WRITE (IOUREP,200) TOTAL,REMARK
64043      C   200 FORMAT('O',A4,A2,15A4)
64044      C
64045      C   IF (NMHFLG.EQ.2) WRITE (IOUREP,210) NONMTH,REMARK
64046      C   210 FORMAT('O',3A4,15A4)
64047      C
64048      C   RETURN
64049      C   END

```

```

65000      SUBROUTINE USDPTR
65001      C
65002      C   USDPTR finds the pointers into the user supplied data name array.
65003      C
65004      C   Called by OUTHD3 and OUTHD4.
65005      C
65006      C   Input on call:
65007      C
65008      C       common blocks:
65009      C       /FLAGS1/ TAMFLG
65010      C       /FLAGS2/ MYMRFG,NEWFLG
65011      C
65012      C   Output on return:
65013      C
65014      C       common block: /USDATA/ NUSD,IUSD
65015      C
65016      C   Notes:
65017      C
65018      C   USDPTR is a new subprogram (added for MOBILE3).
65019      C
65020      C
65021      C       INTEGER TAMFLG,SPDFLG,VMFLAG,ALHFLG,ATPFLG
65022      C       REAL*8 USNAME
65023      C
65024      C       COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
65025      C       COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
65026      C       COMMON /USDATA/ USNAME(4,4),NUSD,IUSD(4)
65027      C
65028      C   Setup scenario header user supplied data pointer vector.
65029      C
65030      C       IF (TAMFLG.EQ.1.AND.NEWFLG.EQ.1.AND.MYMRFG.EQ.1) GOTO 99
65031      C       IF (TAMFLG.EQ.1) GOTO 10
65032      C       NUSD=1
65033      C       IUSD(1)=1
65034      C   10 IF (NEWFLG.EQ.1) GOTO 20
65035      C       NUSD=NUSD+1
65036      C       IUSD(NUSD)=2
65037      C   20 IF (MYMRFG.EQ.1) GOTO 99
65038      C       IF (MYMRFG.EQ.4) GOTO 30
65039      C       NUSD=NUSD+1
65040      C       IF (MYMRFG.EQ.2) IUSD(NUSD)=3
65041      C       IF (MYMRFG.EQ.3) IUSD(NUSD)=4
65042      C       GOTO 99
65043      C   30 NUSD=NUSD+1
65044      C       IUSD(NUSD)=3
65045      C       NUSD=NUSD+1
65046      C       IUSD(NUSD)=4
65047      C
65048      C   99 RETURN
65049      C   END

```



```

66000      SUBROUTINE OUTDT1(ICY)
66001      C
66002      C OUTDT1 writes scenario parameters and output on unit IOUREP using output
66003      C format (IFORM) 1.
66004      C
66005      C Called by OUTPUT.
66006      C
66007      C Calls OUTPOL and IFIX (FORTRAN library function).
66008      C
66009      C Input on call:
66010      C
66011      C     parameter list: ICY
66012      C     common blocks:
66013      C     /FLAGS3/ ICEVFG
66014      C     /IOUCOM/ IOUREP
66015      C     /LNKCOM/ SPD,AMBT,PCCN,PCHC,PCCC
66016      C     /REGCOM/ IREJN
66017      C     /RESULT/ EFFTP,WFTP,EFEVAP,EFIDLE,WIDLE
66018      C     /SYSCOM/ MAXVEH
66019      C     /VMXCOM/ VMTMIX
66020      C
66021      C Local variable dictionary:
66022      C
66023      C      Name      Type      Description
66024      C      -----
66025      C      IAMBT      R      AMBT converted to INTEGER type
66026      C      ICY2        I      ICY converted back to 2 digit year
66027      C      IP1         I      see parameter dictionary
66028      C      IP2         I      see parameter dictionary
66029      C
66030      C Notes:
66031      C
66032      C OUTDT1 in MOBILE3 is an update of OUTDT0 in MOBILE2 (the old MOBILE1
66033      C descriptive format, IFORM = 1 in MOBILE2, has been eliminated).
66034      C
66035      C
66036      C     INTEGER PRTFLG
66037      C
66038      C     COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
66039      C     COMMON /IOUCOM/ IOUAE,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
66040      C     COMMON /LNKCOM/ SPD(8),AMBT,PCCN,PCHC,PCCC
66041      C     COMMON /REGCOM/ IREJN,ALT
66042      C     COMMON /RESULT/ EFFTP(3,9),WFTP(3),EFEVAP(9),EFIDLE(3,9),WIDLE(3)
66043      C     COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
66044      C     COMMON /VMXCOM/ VMTMIX(8)
66045      C
66046      C     CALL OUTPOL(IP1,IP2)
66047      C     IAMBT=IFIX(AMBT)
66048      C     ICY2=ICY-((ICY/100)*100)
66049      C
66050      C     IF((ICEVFG.EQ.2.OR.ICEVFG.EQ.4).AND.IP1.EQ.1) WRITE(IOUREP,200)
66051      C     * IREJN,ICY2,SPD(1),SPD(4),SPD(8),IAMBT,PCCN,PCHC,PCCC,
66052      C     * (EFEVAP(IV),IV=1,4),(EFEVAP(IV),IV=7,MAXVEH),
66053      C     * (VMTMIX(IV),IV=1,4),(VMTMIX(IV),IV=7,MAXVEH)
66054      C     200 FORMAT (
66055      C     * ' ',11,1X,12,1X,2(F4.1,'/'),F4.1,14,3F6.1,1X,'E',6F7.2,6F6.3)
66056      C
66057      C     DO 10 IP=IP1,IP2

```

Appendix C: MOBILE3 Subroutine OUTDT1

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```
66058      WRITE (IOUREP,210)
66059      *   IREJN,ICY2,SPD (1),SPD (4),SPD (8),IAMBT,PCCN,PCHC,PCCC,
66060      *   IP,(EFFTP (IP,IV),IV=1,4),(EFFTP (IP,IV),IV=7,MAXVEH),
66061      *   (VMTMIX (IV),IV=1,4),(VMTMIX (IV),IV=7,MAXVEH),WFTP (IP)
66062      10 CONTINUE
66063      210 FORMAT (
66064      *   ',11,1X,12,1X,2 (F4.1, '/') ,F4.1,14,3F6.1,1X,11,6F7.2,6F6.3,F7.2)
66065      C
66066      RETURN
66067      END
```

```

67000      SUBROUTINE OUTDT2(ICY)
67001      C
67002      C OUTDT2 writes scenario parameters and output on unit IOUREP using output
67003      C format (IFORM) 2.
67004      C
67005      C Called by OUTPUT.
67006      C
67007      C Calls OUTPOL and IFIX (FORTRAN library function).
67008      C
67009      C Input on call:
67010      C
67011      C     parameter list: ICY
67012      C     common blocks:
67013      C     /FLAGS3/ ICEVFG
67014      C     /IOUCOM/ IOUREP
67015      C     /LNKCOM/ SPD,AMBT,PCCN,PCHC,PCCC
67016      C     /REGCOM/ IREJN,ALT
67017      C     /RESULT/ EFFTP,WFTP,EFEVAP,EFIDLE,WIDLE
67018      C     /SYSCOM/ MAXVEH
67019      C     /VMXCOM/ VMTMIX
67020      C
67021      C Local variable dictionary:
67022      C
67023      C     Name      Type      Description
67024      C     -----
67025      C     IAMBT      R      AMBT converted to INTEGER type
67026      C     ICY2        I      ICY converted back to 2 digit year
67027      C     IP1         I      see parameter dictionary
67028      C     IP2         I      see parameter dictionary
67029      C
67030      C
67031      C     INTEGER PRTFLG
67032      C
67033      C     COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
67034      C     COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
67035      C     COMMON /LNKCOM/ SPD(8),AMBT,PCCN,PCHC,PCCC
67036      C     COMMON /REGCOM/ IREJN,ALT
67037      C     COMMON /RESULT/ EFFTP(3,9),WFTP(3),EFEVAP(9),EFIDLE(3,9),WIDLE(3)
67038      C     COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
67039      C     COMMON /VMXCOM/ VMTMIX(8)
67040      C
67041      C     CALL OUTPOL(IP1,IP2)
67042      C     IAMBT=IFIX(AMBT)
67043      C     ICY2=ICY-((ICY/100)*100)
67044      C
67045      C     IF((ICEVFG.EQ.2.OR.ICEVFG.EQ.4).AND.IP1.EQ.1) WRITE(IOUREP,200)
67046      C     * IREJN,ICY2,SPD,IAMBT,PCCN,PCHC,PCCC,ALT,
67047      C     * (EFEVAP(IV),IV=1,3),EFEVAP(9),(EFEVAP(IV),IV=4,MAXVEH),
67048      C     * VMTMIX
67049      C     200 FORMAT(
67050      C     * ' ', 'A', 1X, 11, 1X, 12, 1X, 7 (F4.1, '/') , F4.1, 14, 3F6.1, 1X, F6.0/
67051      C     * ' ', 'B', 1X, 'E', 9F7.2/
67052      C     * ' ', 'C', 8F6.3)
67053      C
67054      C     DO 10 IP=IP1,IP2
67055      C     WRITE(IOUREP,210)
67056      C     * IREJN,ICY2,SPD,IAMBT,PCCN,PCHC,PCCC,ALT,
67057      C     * IP,(EFFTP(IP,IV),IV=1,3),EFFTP(IP,9),(EFFTP(IP,IV),IV=4,

```

Appendix C: MOBILE3 Subroutine OUTDT2

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```
67058      *      ,MAXVEH) ,
67059      *      VMTMIX,WFTP(IP)
67060      10 CONTINUE
67061      C
67062      210 FORMAT (
67063      *      ' ', 'A', 1X, 11, 1X, 12, 1X, 7 (F4.1, '/') , F4.1, 14, 3F6.1, 1X, F6.0/
67064      *      ' ', 'B', 1X, 11, 9F7.2/
67065      *      ' ', 'C', 8F6.3, F7.2)
67066      C
67067      RETURN
67068      END
```



```

68000      SUBROUTINE OUTDT3(ICY)
68001      C
68002      C OUTDT3 writes scenario parameters and output on unit IOUREP using output
68003      C format (IFORM) 3.
68004      C
68005      C Called by OUTPUT.
68006      C
68007      C Calls OUTPOL.
68008      C
68009      C Input on call:
68010      C
68011      C   parameter list: ICY
68012      C   common blocks:
68013      C   /FLAGS2/ IMFLAG,ALHFLG,ATPFLG
68014      C   /FLAGS3/ ICEVFG,IDLFLG,NMHFLG
68015      C   /IOUCOM/ IOUREP
68016      C   /LNKCOM/ SPD,AMBT,PCCN,PCHC,PCCC
68017      C   /REGCOM/ IREJN,ALT
68018      C   /RESULT/ EFFTP,WFTP,EFEVAP,EFIDLE,WIDLE
68019      C   /STRING/ NOYES,COMMA,PERIOD
68020      C   /SYSCOM/ MAXVEH
68021      C   /USDATA/ USNAME,NUSD,IUSD
68022      C   /VMXCOM/ VMTMIX
68023      C   /XCFS1/ AC,XLOAD,TRAILR,ABSHUM,DB,WB
68024      C
68025      C Local array subscripts:
68026      C
68027      C NAMNMH(2) - NAMNMH ( NMHFLG )
68028      C NAMPOL(3) - NAMNMH ( IP )
68029      C NAMREG(3) - NAMREG ( IREJN )
68030      C NAMVEH(10) - NAMVEH ( IVF3 )
68031      C
68032      C Local variable / array dictionary:
68033      C
68034      C   Name      Type      Description
68035      C   -----
68036      C   IP1        I        see parameter dictionary
68037      C   IP2        I        see parameter dictionary
68038      C   NAMNMH     R*8      prefix indicating type of HC (total vs non-methane)
68039      C   NAMPOL     I        pollutant names
68040      C   NAMREG     I        region names
68041      C   NAMVEH     R*8      vehicle class names
68042      C   NWITHC     I        number of substrings to be written with a comma appended
68043      C   USC8      R*8      8 character underscore
68044      C
68045      C
68046      C   INTEGER ALHFLG,ATPFLG,PRTFLG
68047      C   REAL*8 USNAME
68048      C
68049      C   COMMON /FLAGS2/ MYMRF,NEWFLG,IMFLAG,ALHFLG,ATPFLG
68050      C   COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
68051      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
68052      C   COMMON /LNKCOM/ SPD(8),AMBT,PCCN,PCHC,PCCC
68053      C   COMMON /REGCOM/ IREJN,ALT
68054      C   COMMON /RESULT/ EFFTP(3,9),WFTP(3),EFEVAP(9),EFIDLE(3,9),WIDLE(3)
68055      C   COMMON /STRING/ NOYES(2),COMMA,PERIOD
68056      C   COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
68057      C   COMMON /USDATA/ USNAME(4,4),NUSD,IUSD(4)

```

Appendix C: MOBILE3 Subroutine OUTDT3

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```

68058      COMMON /VMXCOM/ VMTMIX(8)
68059      COMMON /XCFS1/  AC,XLOAD(3),TRAILR(3),ABSHUM,DB,WB
68060      C
68061      REAL*8 NAMVEH(10),NAMNMH(2),USC8
68062      C
68063      DIMENSION NAMREG(3),NAMPOL(3)
68064      C
68065      DATA NAMVEH/
68066      * ' LDGV',
68067      * ' LDGT1',
68068      * ' LDGT2',
68069      * ' LDGT',
68070      * ' HDGV',
68071      * ' LDDV',
68072      * ' LDDT',
68073      * ' HDDV',
68074      * ' MC ',
68075      * ' All Veh' /
68076      C
68077      DATA NAMREG/'Low ','High','Mid ' /
68078      C
68079      DATA USC8/' _____' /
68080      C
68081      DATA NAMPOL/' HC:', ' CO:', 'NOX:' /
68082      C
68083      DATA NAMNMH/' Total','Non-Meth' /
68084      C
68085      CALL OUTPOL(IP1,IP2)
68086      C
68087      IF (NUSD.EQ.0) GOTO 10
68088      IF (NUSD.EQ.1) WRITE (IOUREP,200) (USNAME(ICH,IUSD(1)),ICH=1,4),
68089      * PERIOD
68090      NWITHC=NUSD-1
68091      IF (NWITHC.GT.0) WRITE (IOUREP,200)
68092      * ((USNAME(ICH,IUSD(1CT)),ICH=1,4),COMMA,1CT=1,NWITHC),
68093      * (USNAME(ICH,IUSD(NUSD)),ICH=1,4),PERIOD
68094      200 FORMAT('O','User supplied',4A8,T46,A1,4A8,T78,A1,4A8,T110,A1/
68095      * ' ',T15,4A8,T46,A1)
68096      C
68097      10 WRITE (IOUREP,210)
68098      * ICY,NOYES(IMFLAG),AMBT,NAMREG(IREJN),
68099      * NOYES(ATPFLG),PCCN,PCHC,PCCC,ALT
68100      210 FORMAT(
68101      * 'O', T2,'Cal. Year:',I5,
68102      * T25,'I/M Program: ',A4,
68103      * T48,'Ambient Temp:',F5.1,' (F) ',
68104      * T85,'Region: ',A4/
68105      * ' ',T19,'Anti-tam. Program: ',A4,
68106      * T46,'Operating Mode:',F5.1,2(' /',F5.1),
68107      * T83,'Altitude:',F6.0,' Ft.')
68108      C
68109      IF (ALHFLG.GT.1) WRITE (IOUREP,215)
68110      * ABSHUM,
68111      * AC,DB,WB
68112      215 FORMAT(
68113      * ' ',T19,'Absolute Humidity:',F6.2,
68114      * T48,'AC (DB / WB):',F5.1,' (' ,F5.1,' /',F5.1,') ')
68115      C

```

```

68116      WRITE(10UREP,220)
68117      *   NAMVEH, (USC8,ITER=1,10),
68118      *   SPD,
68119      *   VMTMIX
68120      220 FORMAT (
68121      *'O', ' Veh. Type:',10(2X,A8) / '+' ,T15,9(2X,A8),1X,A8/
68122      *' ', 'Veh. Speeds:',F9.1,2F10.1,10X,5F10.1/
68123      *' ', ' VMT Mix:',F11.3,2F10.3,10X,5F10.3)
68124      C
68125      IF (ALHFLG.GT.1) WRITE(10UREP,230)
68126      *   XLOAD,
68127      *   TRAILR
68128      230 FORMAT (
68129      *' ', ' Extra Load:',F11.3,2F10.3/
68130      *' ', 'Trlr in Tow:',F11.3,2F10.3)
68131      C
68132      WRITE(10UREP,240)
68133      240 FORMAT (
68134      *'O', 'Composite Emission Factors (Gm/Mile)')
68135      C
68136      DO 30 IP=IP1,IP2
68137      IF (IP.NE.1) GOTO 20
68138      C
68139      WRITE(10UREP,250)
68140      *   NAMMMH (NMHFLG),NAMPOL(IP),
68141      *   (EFFTP(IP,IV),IV=1,3),EFFTP(IP,9), (EFFTP(IP,IV),IV=4,MAXVEH),
68142      *   WFTP(IP)
68143      250 FORMAT (
68144      *' ',A8,A4,
68145      *   9F10.2,
68146      *   F10.2)
68147      IF (ICEVFG.EQ.2.OR.ICEVFG.EQ.4) WRITE(10UREP,260)
68148      *   NAMPOL(IP),
68149      *   (EFEVAP(IV),IV=1,3),EFEVAP(9), (EFEVAP(IV),IV=4,MAXVEH)
68150      260 FORMAT (
68151      *' ', ' *Evap',A4,
68152      *   9F10.2,6X,'----')
68153      GOTO 30
68154      C
68155      20 WRITE(10UREP,265)
68156      *   NAMPOL(IP),
68157      *   (EFFTP(IP,IV),IV=1,3),EFFTP(IP,9), (EFFTP(IP,IV),IV=4,MAXVEH),
68158      *   WFTP(IP)
68159      265 FORMAT (
68160      *' ', 'Exhaust ',A4,
68161      *   9F10.2,
68162      *   F10.2)
68163      30 CONTINUE
68164      C
68165      IF (IDLFLG.EQ.1) GOTO 60
68166      WRITE(10UREP,270)
68167      270 FORMAT (
68168      *'O', 'Hot Stabilized Idle Emission Factors (Gm/Min)')
68169      C
68170      DO 50 IP=IP1,IP2
68171      IF (IP.NE.1.OR.NMHFLG.EQ.1) GOTO 40
68172      C
68173      WRITE(10UREP,275)

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```

68174      * NAMPOL (IP),
68175      * (EFIDLE (IP, IV), IV=1, 3), EFIDLE (IP, 9), (EFIDLE (IP, IV), IV=4, MAXVEH),
68176      * WIDLE (IP)
68177 275 FORMAT (
68178      * ' ', 'NM-Idle ', A4,
68179      * 9F10.2,
68180      * F10.2)
68181      GOTO 50
68182 C
68183      40 WRITE (IOUREP, 280)
68184      * NAMPOL (IP),
68185      * (EFIDLE (IP, IV), IV=1, 3), EFIDLE (IP, 9), (EFIDLE (IP, IV), IV=4, MAXVEH),
68186      * WIDLE (IP)
68187 280 FORMAT (
68188      * ' ', 'Idle ', A4,
68189      * 9F10.2,
68190      * F10.2)
68191      50 CONTINUE
68192 C
68193      60 WRITE (IOUREP, 290)
68194 290 FORMAT (' ', 112(' '))
68195 C
68196      RETURN
68197      END

```



```

69000      SUBROUTINE OUTDT4(ICY)
69001      C
69002      C OUTDT4 writes scenario parameters and output on unit IOUREP using output
69003      C format (IFORM) 4.
69004      C
69005      C Called by OUTPUT.
69006      C
69007      C Calls OUTPOL.
69008      C
69009      C Input on call:
69010      C
69011      C   parameter list: ICY
69012      C   common blocks:
69013      C   /FLAGS2/ IMFLAG,ALHFLG,ATPFLG
69014      C   /FLAGS3/ ICEVFG,IDLFLG,NMHFLG
69015      C   /IOUCOM/ IOUREP
69016      C   /LNKCOM/ SPD,AMBT,PCCN,PCHC,PCCC
69017      C   /REGCOM/ IREJN,ALT
69018      C   /RESULT/ EFFTP,WFTP,EFEVAP,EFIDLE,WIDLE
69019      C   /STRING/ NOYES,COMMA,PERIOD
69020      C   /SYSCOM/ MAXVEH
69021      C   /USDATA/ USNAME,NUSD,IUSD
69022      C   /VMXCOM/ VMTMX
69023      C   /XCFS1/ AC,XLOAD,TRAILR,ABSHUM,DB,WB
69024      C
69025      C Local array subscripts:
69026      C
69027      C NAMNMH(2) - NAMNMH ( NMHFLG )
69028      C NAMPOL(3) - NAMNMH ( IP )
69029      C NAMREG(3) - NAMREG ( IREJN )
69030      C NAMVEH(10) - NAMVEH ( IVF3 )
69031      C
69032      C Local variable / array dictionary:
69033      C
69034      C   Name      Type      Description
69035      C   -----
69036      C   IP1        I        see parameter dictionary
69037      C   IP2        I        see parameter dictionary
69038      C   NAMNMH     R*8      prefix indicating type of HC (total vs non-methane)
69039      C   NAMPOL     I        pollutant names
69040      C   NAMREG     I        region names
69041      C   NAMVEH     R*8      vehicle class names
69042      C   NWITHC     I        number of substrings to be written with a comma appended
69043      C   USC8      R*8      8 character underscore
69044      C
69045      C
69046      C   INTEGER ALHFLG,ATPFLG,PRTFLG
69047      C   REAL*8 USNAME
69048      C
69049      C   COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
69050      C   COMMON /FLAGS3/ IFORM,PRTFLG,ICEVFG,IDLFLG,NMHFLG
69051      C   COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
69052      C   COMMON /LNKCOM/ SPD(8),AMBT,PCCN,PCHC,PCCC
69053      C   COMMON /REGCOM/ IREJN,ALT
69054      C   COMMON /RESULT/ EFFTP(3,9),WFTP(3),EFEVAP(9),EFIDLE(3,9),WIDLE(3)
69055      C   COMMON /STRING/ NOYES(2),COMMA,PERIOD
69056      C   COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
69057      C   COMMON /USDATA/ USNAME(4,4),NUSD,IUSD(4)

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69058      COMMON /VMXCOM/ VMTMIX(8)
69059      COMMON /XCFS1/  AC,XLOAD(3),TRAILR(3),ABSHUM,DB,WB
69060      C
69061      REAL*8 NAMVEH(10),NAMNMH(2),USC8
69062      C
69063      DIMENSION NAMREG(3),NAMPOL(3)
69064      C
69065      DATA NAMVEH/
69066      *   ' LDGV ',
69067      *   ' LDGT1 ',
69068      *   ' LDGT2 ',
69069      *   ' LDGT ',
69070      *   ' HDGV ',
69071      *   ' LDDV ',
69072      *   ' LDDT ',
69073      *   ' HDDV ',
69074      *   ' MC ',
69075      *   'All Veh '/
69076      C
69077      DATA USC8/' _____ '/
69078      C
69079      DATA NAMREG/'Low ','High','Mid '/
69080      C
69081      DATA NAMPOL/' HC:', ' CO:', 'NOX:' /
69082      C
69083      DATA NAMNMH/' Total ', 'No-Mth ' /
69084      C
69085      CALL OUTPOL(IP1,IP2)
69086      C
69087      IF (NUSD.EQ.0) GOTO 10
69088      IF (NUSD.EQ.1) WRITE (IOUREP,200) (USNAME(ICH,IUSD(1)),ICH=1,4),
69089      *                               PERIOD
69090      NWITHC=NUSD-1
69091      IF (NWITHC.GT.0) WRITE (IOUREP,200)
69092      * ((USNAME(ICH,IUSD(1CT)),ICH=1,4),COMMA,1CT=1,NWITHC),
69093      * (USNAME(ICH,IUSD(NUSD)),ICH=1,4),PERIOD
69094      200 FORMAT('0','User supplied',4A8,T46,A1,4A8,T78,A1/
69095      *          ' ', T15,4A8,T46,A1,4A8,T78,A1)
69096      C
69097      C Colons are aligned on columns 30 and 53 for the 80 column scenario header.
69098      C
69099      10 WRITE (IOUREP,210)
69100      *   ICY,NAMREG(IREJN),ALT,
69101      *   NOYES(IMFLAG),AMBT,
69102      *   NOYES(ATPFLG),PCCN,PCHC,PCCC
69103      210 FORMAT (
69104      * '0', T2,'Cal. Year:',I5,
69105      *   T28,'Region: ',A4,
69106      *   T50,'Altitude:',F6.0,' Ft.' /
69107      * ' ',T23,'I/M Program: ',A4,
69108      *   T46,'Ambient Temp:',F7.1,' (F)' /
69109      * ' ',T17,'Anti-tam. Program: ',A4,
69110      *   T44,'Operating Mode:',F7.1,2(' /',F5.1))
69111      C
69112      IF (ALHFLG.GT.1) WRITE (IOUREP,215)
69113      *   ABSHUM,
69114      *   AC,DB,WB
69115      215 FORMAT (

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69116      *' ',T17,'Absolute Humidity:',F6.2,
69117      *   T46,'AC (DB / WB):',F7.1,' (' ,F5.1,' /',F5.1,') ')
69118      C
69119      WRITE (IOUREP,220)
69120      *   NAMVEH, (USC8,ITER=1,10),
69121      *   SPD,
69122      *   VMTMIX
69123      220 FORMAT (
69124      *'0','Veh. Type:',10A7/'+' ,T12,10A7/
69125      *' ', 'Veh. Spd.:',F5.1,2F7.1,7X,5F7.1/
69126      *' ', ' VMT Mix:',3F7.3,7X,5F7.3)
69127      C
69128      IF (ALHFLG.GT.1) WRITE (IOUREP,230)
69129      *   XLOAD,
69130      *   TRAILR
69131      230 FORMAT (
69132      *' ', 'Ext. Load:',3F7.3/
69133      *' ', ' Trlr Tow:',3F7.3)
69134      C
69135      WRITE (IOUREP,240)
69136      240 FORMAT (
69137      *'0','Composite Emission Factors (Gm/Mile)')
69138      C
69139      DO 30 IP=IP1,IP2
69140      IF (IP.NE.1) GOTO 20
69141      C
69142      WRITE (IOUREP,250)
69143      *   NAMNMH (NMHFLG),NAMPOL (IP),
69144      *   (EFFTP (IP,IV),IV=1,3),EFFTP (IP,9), (EFFTP (IP,IV),IV=4,MAXVEH),
69145      *   WFTP (IP)
69146      250 FORMAT (
69147      *' ',A6,A4,
69148      *   F6.2,8F7.2,
69149      *   F7.2)
69150      IF (ICEVFG.EQ.2.OR.ICEVFG.EQ.4) WRITE (IOUREP,260)
69151      *   NAMPOL (IP),
69152      *   (EFEVAP (IV),IV=1,3),EFEVAP (9), (EFEVAP (IV),IV=4,MAXVEH)
69153      260 FORMAT (
69154      *' ', ' *Evap',A4,
69155      *   F6.2,8F7.2,' ----')
69156      GOTO 30
69157      C
69158      20 WRITE (IOUREP,265)
69159      *   NAMPOL (IP),
69160      *   (EFFTP (IP,IV),IV=1,3),EFFTP (IP,9), (EFFTP (IP,IV),IV=4,MAXVEH),
69161      *   WFTP (IP)
69162      265 FORMAT (
69163      *' ', 'Exhst ',A4,
69164      *   F6.2,8F7.2,
69165      *   F7.2)
69166      30 CONTINUE
69167      C
69168      IF (IDLFLG.EQ.1) GOTO 60
69169      WRITE (IOUREP,270)
69170      270 FORMAT (
69171      *'0','Hot Stabilized Idle Emission Factors (Gm/Min)')
69172      C
69173      DO 50 IP=IP1,IP2

```

```
69174      IF (IP.NE.1.OR.NMHFLG.EQ.1) GOTO 40
69175      C
69176      WRITE (IOUREP,275)
69177      * NAMPOL (IP),
69178      * (EFIDLE (IP,IV),IV=1,3),EFIDLE (IP,9), (EFIDLE (IP,IV),IV=4,MAXVEH),
69179      * WIDLE (IP)
69180      275 FORMAT (
69181      * ' ',NM-1d',A4,
69182      * F6.2,8F7.2,
69183      * F7.2)
69184      GOTO 50
69185      C
69186      40 WRITE (IOUREP,280)
69187      * NAMPOL (IP),
69188      * (EFIDLE (IP,IV),IV=1,3),EFIDLE (IP,9), (EFIDLE (IP,IV),IV=4,MAXVEH),
69189      * WIDLE (IP)
69190      280 FORMAT (
69191      * ' ', 'Idle',A4,
69192      * F6.2,8F7.2,
69193      * F7.2)
69194      50 CONTINUE
69195      C
69196      60 WRITE (IOUREP,290)
69197      290 FORMAT (' ',80(' '))
69198      C
69199      RETURN
69200      END
```



```

70000      SUBROUTINE OUTPOL(IP1,IP2)
70001      C
70002      C   OUTPOL selects loop parameters for pollutant printouts.
70003      C
70004      C   Called by OUTDT1, OUTDT2, OUTDT3 and OUTDT4.
70005      C
70006      C   Input on call:
70007      C
70008      C       common blocks:
70009      C       /FLAGS3/ PRTFLG
70010      C       /SYSCOM/ MAXPOL
70011      C
70012      C   Output on return:
70013      C
70014      C       parameter list: IP1,IP2
70015      C
70016      C
70017      C       INTEGER PRTFLG
70018      C
70019      C       COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
70020      C       COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
70021      C
70022      C       IP1=PRTFLG
70023      C       IP2=PRTFLG
70024      C       IF (PRTFLG.LT.4) GOTO 99
70025      C       IP1=1
70026      C       IP2=MAXPOL
70027      C
70028      C   99 RETURN
70029      C   END

```

```

71000      BLOCK DATA
71001      C
71002      C BLOCK DATA Subprogram 01
71003      C
71004      C BLOCK DATA 01 defines and initializes the speed correction factor
71005      C coefficients for vehicle types LDGV, LDGT1/2 and MC.
71006      C
71007      C Common block array subscripts:
71008      C
71009      C AIN(6,21,3) - AIN ( ICOEFF, ISP, IP )
71010      C AIN1(6,21) - AIN1 ( ICOEFF, ISP )
71011      C AIN2(6,21) - AIN2 ( ICOEFF, ISP )
71012      C AIN3(6,21) - AIN3 ( ICOEFF, ISP )
71013      C
71014      C Common block dictionary:
71015      C
71016      C      Name      Type      Description
71017      C      -----
71018      C /ACOM/:
71019      C
71020      C AIN      R      AIN1/2/3 - the 3 arrays in this BD appear as AIN in SPFCLX
71021      C AIN1     R      HC speed correction factor coefficients for IV=1,2,3,8
71022      C AIN2     R      CO speed correction factor coefficients for IV=1,2,3,8
71023      C AIN3     R      NOX speed correction factor coefficients for IV=1,2,3,8
71024      C
71025      C Local array subscripts:
71026      C
71027      C A11(6,9) - A11( ICOEFF, ISP )
71028      C A12(6,9) - A12( ICOEFF, ISP )
71029      C A13(6,3) - A13( ICOEFF, ISP )
71030      C A21(6,9) - A21( ICOEFF, ISP )
71031      C A22(6,9) - A22( ICOEFF, ISP )
71032      C A23(6,3) - A23( ICOEFF, ISP )
71033      C A31(6,9) - A31( ICOEFF, ISP )
71034      C A32(6,9) - A32( ICOEFF, ISP )
71035      C A33(6,3) - A33( ICOEFF, ISP )
71036      C ISP is determined by MY, IR, and IV.
71037      C
71038      C Local array dictionary:
71039      C
71040      C      Name      Type      Description
71041      C      -----
71042      C The following 3 variables are for HC emissions:
71043      C
71044      C A11      R      6 coefficients for IG=1 thru 9
71045      C A12      R      6 coefficients for IG=10 thru 18
71046      C A13      R      6 coefficients for IG=19 thru 21
71047      C
71048      C The following 3 variables are for CO emissions:
71049      C
71050      C A21      R      6 coefficients for IG=1 thru 9
71051      C A22      R      6 coefficients for IG=10 thru 18
71052      C A23      R      6 coefficients for IG=19 thru 21
71053      C
71054      C The following 3 variables are for NOX emissions:
71055      C
71056      C A31      R      6 coefficients for IG=1 thru 9
71057      C A32      R      6 coefficients for IG=10 thru 18

```

Appendix C: MOBILE3 Block Data 01

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71058 C A33 R 6 coefficients for IG=19 thru 21
71059 C
71060 C Notes:
71061 C
71062 C Speed correction coefficients were updated.
71063 C (NOX coeff. are based on logs for IG=19+)
71064 C
71065 C The dimensions were increased from 18 (in MOBILE2) to 21.
71066 C
71067 C COMMON /ACOM/ AIN1(6,21),AIN2(6,21),AIN3(6,21)
71068 C
71069 C DIMENSION A11(6,9),A12(6,9),A13(6,3),
71070 * A21(6,9),A22(6,9),A23(6,3),
71071 * A31(6,9),A32(6,9),A33(6,3)
71072 C
71073 C EQUIVALENCE
71074 * (AIN1(1,1),A11(1,1)),(AIN1(1,10),A12(1,1)),(AIN1(1,19),A13(1,1)),
71075 * (AIN2(1,1),A21(1,1)),(AIN2(1,10),A22(1,1)),(AIN2(1,19),A23(1,1)),
71076 * (AIN3(1,1),A31(1,1)),(AIN3(1,10),A32(1,1)),(AIN3(1,19),A33(1,1))
71077 C
71078 C HC speed correction factor coefficients
71079 C
71080 C DATA A11/
71081 * 2.24612E+00, -2.90973E-01, 1.58890E-02,
71082 * -4.72494E-04, 6.94077E-06, -3.92798E-08,
71083 * 2.31026E+00, -2.89572E-01, 1.52990E-02,
71084 * -4.46689E-04, 6.48183E-06, -3.63456E-08,
71085 * 2.16556E+00, -2.69992E-01, 1.44221E-02,
71086 * -4.33638E-04, 6.50735E-06, -3.78100E-08,
71087 * 2.39726E+00, -2.99985E-01, 1.61351E-02,
71088 * -4.87491E-04, 7.29093E-06, -4.19769E-08,
71089 * 2.40873E+00, -3.08187E-01, 1.68168E-02,
71090 * -5.06843E-04, 7.53855E-06, -4.31596E-08,
71091 * 2.23217E+00, -2.84985E-01, 1.53833E-02,
71092 * -4.56738E-04, 6.73486E-06, -3.83798E-08,
71093 * 2.25223E+00, -2.87778E-01, 1.56820E-02,
71094 * -4.73179E-04, 7.07954E-06, -4.08456E-08,
71095 * 2.02779E+00, -2.73049E-01, 1.53577E-02,
71096 * -4.60304E-04, 6.78527E-06, -3.84880E-08,
71097 * 2.15056E+00, -2.83620E-01, 1.53836E-02,
71098 * -4.42136E-04, 6.28732E-06, -3.46311E-08/
71099 C DATA A12/
71100 * 2.23021E+00, -2.93648E-01, 1.62356E-02,
71101 * -4.84148E-04, 7.11591E-06, -4.02861E-08,
71102 * 2.12230E+00, -2.91072E-01, 1.69089E-02,
71103 * -5.26148E-04, 8.02705E-06, -4.70117E-08,
71104 * 2.15361E+00, -2.83451E-01, 1.56948E-02,
71105 * -4.69759E-04, 6.93832E-06, -3.94707E-08,
71106 * 2.07346E+00, -2.89353E-01, 1.73042E-02,
71107 * -5.54707E-04, 8.64204E-06, -5.13107E-08,
71108 * 2.34948E+00, -3.04959E-01, 1.68416E-02,
71109 * -5.09623E-04, 7.59516E-06, -4.34963E-08,
71110 * 2.11340E+00, -2.85676E-01, 1.63180E-02,
71111 * -5.00793E-04, 7.55067E-06, -4.37187E-08,
71112 * 2.11940E+00, -2.98632E-01, 1.84473E-02,
71113 * -6.16544E-04, 9.92062E-06, -6.04021E-08,
71114 * 2.68382E+00, -3.44633E-01, 1.95417E-02,
71115 * -6.25720E-04, 9.78442E-06, -5.83369E-08,

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71116	*	2.39540E+00,	-3.35781E-01,	2.11609E-02,	
71117	*		-7.31550E-04,	1.20715E-05,	-7.48567E-08/
71118		DATA A13/			
71119	*	1.21545E+00,	-7.07633E-02,	4.46460E-04,	
71120	*		0.00000E+00,	0.00000E+00,	0.00000E+00,
71121	*	1.44386E+00,	-8.80857E-02,	7.35680E-04,	
71122	*		0.00000E+00,	0.00000E+00,	0.00000E+00,
71123	*	9.84090E-01,	-5.67319E-02,	3.32820E-04,	
71124	*		0.00000E+00,	0.00000E+00,	0.00000E+00/
71125	C				
71126	C	C0 speed correction factor coefficients			
71127	C				
71128		DATA A21/			
71129	*	1.81978E+00,	-2.54663E-01,	1.52347E-02,	
71130	*		-4.87397E-04,	7.58207E-06,	-4.49514E-08,
71131	*	2.33989E+00,	-2.96978E-01,	1.60071E-02,	
71132	*		-4.77396E-04,	7.06752E-06,	-4.03978E-08,
71133	*	2.44154E+00,	-2.91473E-01,	1.42949E-02,	
71134	*		-3.87852E-04,	5.29781E-06,	-2.82441E-08,
71135	*	2.46551E+00,	-3.05023E-01,	1.60497E-02,	
71136	*		-4.73969E-04,	6.99075E-06,	-3.99758E-08,
71137	*	2.77804E+00,	-3.19130E-01,	1.53183E-02,	
71138	*		-4.22327E-04,	5.84948E-06,	-3.14969E-08,
71139	*	2.78899E+00,	-3.27107E-01,	1.62943E-02,	
71140	*		-4.67573E-04,	6.71906E-06,	-3.74401E-08,
71141	*	2.70743E+00,	-3.31038E-01,	1.76179E-02,	
71142	*		-5.38583E-04,	8.17402E-06,	-4.77803E-08,
71143	*	1.86919E+00,	-2.76679E-01,	1.72335E-02,	
71144	*		-5.58279E-04,	8.71678E-06,	-5.16980E-08,
71145	*	1.82133E+00,	-2.72054E-01,	1.70304E-02,	
71146	*		-5.52021E-04,	8.62543E-06,	-5.11440E-08/
71147		DATA A22/			
71148	*	2.01421E+00,	-2.95188E-01,	1.86353E-02,	
71149	*		-6.21606E-04,	9.93657E-06,	-5.99779E-08,
71150	*	2.04533E+00,	-3.10618E-01,	2.04852E-02,	
71151	*		-7.08527E-04,	1.16215E-05,	-7.15690E-08,
71152	*	2.31868E+00,	-3.41147E-01,	2.09446E-02,	
71153	*		-6.65891E-04,	1.02225E-05,	-5.98265E-08,
71154	*	2.57522E+00,	-3.28888E-01,	1.89747E-02,	
71155	*		-6.28263E-04,	1.00924E-05,	-6.12727E-08,
71156	*	2.68454E+00,	-3.32817E-01,	1.76277E-02,	
71157	*		-5.24123E-04,	7.72221E-06,	-4.37025E-08,
71158	*	2.15487E+00,	-3.29116E-01,	2.10112E-02,	
71159	*		-6.89057E-04,	1.08390E-05,	-6.47125E-08,
71160	*	2.54557E+00,	-3.62954E-01,	2.32775E-02,	
71161	*		-8.15039E-04,	1.36231E-05,	-8.55909E-08,
71162	*	2.83929E+00,	-3.68756E-01,	2.10782E-02,	
71163	*		-6.76438E-04,	1.06267E-05,	-6.36405E-08,
71164	*	2.48747E+00,	-3.91562E-01,	2.70721E-02,	
71165	*		-9.76178E-04,	1.65270E-05,	-1.04317E-07/
71166		DATA A23/			
71167	*	1.16177E+00,	-5.92737E-02,	0.00000E+00,	
71168	*		0.00000E+00,	0.00000E+00,	0.00000E+00,
71169	*	8.81952E-01,	-4.49976E-02,	0.00000E+00,	
71170	*		0.00000E+00,	0.00000E+00,	0.00000E+00,
71171	*	8.58419E-01,	-4.37969E-02,	0.00000E+00,	
71172	*		0.00000E+00,	0.00000E+00,	0.00000E+00/
71173	C				

Appendix C: MOBILE3 Block Data 01

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```

71174 C NOX speed correction factor coefficients
71175 C
71176 DATA A31/
71177 * 2.44424E+00, -2.50107E-01, 1.38293E-02,
71178 * -2.87025E-04, 2.07585E-06, 0.00000E+00,
71179 * 1.68635E+00, -1.18303E-01, 6.54975E-03,
71180 * -1.37139E-04, 1.00849E-06, 0.00000E+00,
71181 * 1.12646E+00, -3.93405E-02, 2.68637E-03,
71182 * -6.08024E-05, 4.77286E-07, 0.00000E+00,
71183 * 1.22677E+00, -4.44978E-02, 2.62476E-03,
71184 * -5.67150E-05, 4.34293E-07, 0.00000E+00,
71185 * 1.01743E+00, -1.18958E-02, 9.14365E-04,
71186 * -2.15740E-05, 1.82300E-07, 0.00000E+00,
71187 * 9.87600E-01, -1.95674E-02, 1.69645E-03,
71188 * -4.04000E-05, 3.28001E-07, 0.00000E+00,
71189 * 1.15917E+00, -4.44536E-02, 2.96425E-03,
71190 * -6.68990E-05, 5.22365E-07, 0.00000E+00,
71191 * 1.88656E+00, -1.61289E-01, 9.04995E-03,
71192 * -1.85609E-04, 1.32555E-06, 0.00000E+00,
71193 * 1.55777E+00, -1.13032E-01, 6.71832E-03,
71194 * -1.43409E-04, 1.06079E-06, 0.00000E+00/
71195 DATA A32/
71196 * 2.04516E+00, -1.94014E-01, 1.10736E-02,
71197 * -2.31754E-04, 1.68372E-06, 0.00000E+00,
71198 * 1.63262E+00, -1.21861E-01, 7.03020E-03,
71199 * -1.46293E-04, 1.06141E-06, 0.00000E+00,
71200 * 1.44825E+00, -1.22444E-01, 7.95024E-03,
71201 * -1.71078E-04, 1.25777E-06, 0.00000E+00,
71202 * 2.45969E-01, 8.41954E-02, -3.40841E-03,
71203 * -6.29880E-05, -4.13975E-07, 0.00000E+00,
71204 * 1.28169E+00, -8.04874E-02, 5.35735E-03,
71205 * -1.18891E-04, 9.01060E-07, 0.00000E+00,
71206 * 1.53447E+00, -1.25671E-01, 7.85919E-03,
71207 * -1.69428E-04, 1.25494E-06, 0.00000E+00,
71208 * 7.04805E-01, 3.81527E-02, -1.73907E-03,
71209 * 3.26140E-05, -2.03847E-07, 0.00000E+00,
71210 * 7.83838E-01, 3.28549E-04, 1.06029E-03,
71211 * -3.19350E-05, 2.90389E-07, 0.00000E+00,
71212 * 9.42131E-01, -4.23240E-02, 3.86253E-03,
71213 * -9.39853E-05, 7.53883E-07, 0.00000E+00/
71214 DATA A33/
71215 * 3.08282E-01, -2.30362E-02, 3.72830E-04,
71216 * 0.00000E+00, 0.00000E+00, 0.00000E+00,
71217 * 2.95046E-01, -2.36333E-02, 4.37750E-04,
71218 * 0.00000E+00, 0.00000E+00, 0.00000E+00,
71219 * 3.86041E-01, -2.62961E-02, 3.36740E-04,
71220 * 0.00000E+00, 0.00000E+00, 0.00000E+00/
71221 C
71222 END

```

```

72000      BLOCK DATA
72001      C
72002      C BLOCK DATA Subprogram 02
72003      C
72004      C BLOCK DATA 02 initializes fleet characterization data:
72005      C (1) annual mileage accumulation rates by relative (to evaluation year)
72006      C model year (JDX) and vehicle type (IV)
72007      C (2) July 1 registration distributions, also by JDX and IV
72008      C (3) vehicle miles travelled (vmt) mix, by IV
72009      C
72010      C Common block array subscripts:
72011      C
72012      C AMAR(20,8) - AMAR ( JDX, IV )
72013      C JULMYR(20,8) - JULMYR ( JDX, IV )
72014      C VMTMIX(8) - VMTMIX ( IV )
72015      C
72016      C Common block dictionary:
72017      C
72018      C Name Type Description
72019      C -----
72020      C /MYRSAV/:
72021      C
72022      C NEWCUM I cumulative model year mileage recalculation flag
72023      C AMAR R annual mileage accumulation rates
72024      C JULMYR R July 1 registration distributions
72025      C
72026      C /VMXCOM/:
72027      C
72028      C VMTMIX R vehicle miles traveled mix
72029      C
72030      C Local array subscripts:
72031      C
72032      C V12MAR(20,2) - V12MAR (JDX, IV )
72033      C V34MAR(20,2) - V34MAR (JDX, IV )
72034      C V56MAR(20,2) - V56MAR (JDX, IV )
72035      C V78MAR(20,2) - V78MAR (JDX, IV )
72036      C
72037      C Local array dictionary:
72038      C
72039      C Name Type Descriptions
72040      C -----
72041      C V12MAR R annual mileage accumulation rates for LDGVs and LDGT1s
72042      C V34MAR R annual mileage accumulation rates for LDGT2s and HDGVs
72043      C V56MAR R annual mileage accumulation rates for LDDVs and LDDTs
72044      C V78MAR R annual mileage accumulation rates for HDDVs and MCs
72045      C
72046      C Notes:
72047      C
72048      C SAVMYM & SAVMYR from MOBILE2 were changed to AMAR & JULMYR, respectively.
72049      C
72050      C The model year mileage recalculation flag "NEWCUM" is
72051      C initialized here.
72052      C
72053      C Annual mileage accumulation rates and July 1 registration
72054      C distributions were updated for all vehicle types,
72055      C except MCs.
72056      C
72057      C HDDV MAR values are initialized as all zeros, they are

```

Appendix C: MOBILE3 Block Data 02

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```

72058 C calculated by subroutine HDDMAR, or supplied by user.
72059 C
72060 REAL JULMYR
72061 C
72062 COMMON /MYRSAV/ AMAR(20,8),JULMYR(20,8),NEWCUM
72063 COMMON /VMXCOM/ VMTMIX(8)
72064 C
72065 DIMENSION V12MAR(20,2),V34MAR(20,2),V56MAR(20,2),V78MAR(20,2)
72066 C
72067 EQUIVALENCE
72068 *(AMAR(1,1),V12MAR(1,1)),
72069 *(AMAR(1,3),V34MAR(1,1)),
72070 *(AMAR(1,5),V56MAR(1,1)),
72071 *(AMAR(1,7),V78MAR(1,1))
72072 C
72073 C Initialize NEWCUM.
72074 C
72075 DATA NEWCUM /1/
72076 C
72077 C Typical vmt mix (values are either computed in TFCALX or supplied by user):
72078 C
72079 DATA VMTMIX/
72080 * .7824, .0825, .0468, .0419, .0021, .0004, .0354, .0085/
72081 C
72082 C Annual average mileage accumulation rates (divided by 100000)
72083 C
72084 DATA V12MAR/
72085 C LDGV
72086 *.12818, .12102, .11427, .10789, .10187,
72087 *.09619, .09082, .08575, .08096, .07645,
72088 *.07218, .06815, .06435, .06076, .05737,
72089 *.05416, .05114, .04829, .04559, .04305,
72090 C LDGT1
72091 *.17394, .16132, .14961, .13876, .12869,
72092 *.11935, .11069, .10266, .09521, .08830,
72093 *.08189, .07595, .07044, .06533, .06059,
72094 *.05619, .05211, .04833, .04483, .04157/
72095 DATA V34MAR/
72096 C LDGT2
72097 *.18352, .16946, .15648, .14449, .13342,
72098 *.12320, .11376, .10504, .09700, .08956,
72099 *.08270, .07637, .07052, .06511, .06012,
72100 *.05552, .05126, .04734, .04371, .04036,
72101 C HDGV
72102 *.19967, .18077, .16365, .14815, .13413,
72103 *.12143, .10993, .09952, .09010, .08156,
72104 *.07384, .06685, .06052, .05479, .04960,
72105 *.04490, .04065, .03680, .03332, .03016/
72106 DATA V56MAR/
72107 C LDDV
72108 *.12818, .12102, .11427, .10789, .10187,
72109 *.09619, .09082, .08575, .08096, .07645,
72110 *.07218, .06815, .06435, .06076, .05737,
72111 *.05416, .05114, .04829, .04559, .04305,
72112 C LDDT
72113 *.17552, .16262, .15068, .13961, .12936,
72114 *.11986, .11105, .10290, .09534, .08833,
72115 *.08185, .07583, .07026, .06510, .06032,

```

Appendix C: MOBILE3 Block Data 02

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```

72116      *.05589, .05179, .04798, .04446, .04119/
72117      DATA V78MAR/
72118 C   HDDV
72119 C   Warning: There are no default HDDV MAR values. Either the user supplies
72120 C           them or they are computed by subroutine HDDMAR.
72121      * .000, .000, .000, .000, .000, .000, .000, .000, .000, .000,
72122      * .000, .000, .000, .000, .000, .000, .000, .000, .000, .000,
72123 C   MC
72124      * .041, .028, .021, .016, .012, .008, .006, .004, .002, .002,
72125      * .002, .000, .000, .000, .000, .000, .000, .000, .000, .000/
72126 C
72127 C   Vehicle registration distributions (enter unmodified data)
72128 C
72129      DATA JULMYR/
72130 C   LDGV
72131      *.080, .101, .095, .089, .083, .077, .071, .065, .059, .053,
72132      *.047, .041, .035, .029, .023, .017, .011, .008, .006, .008,
72133 C   LDGT1
72134      *.067, .085, .081, .077, .073, .069, .065, .061, .057, .053,
72135      *.048, .044, .040, .036, .032, .028, .024, .020, .016, .024,
72136 C   LDGT2
72137      *.067, .085, .081, .077, .073, .069, .065, .061, .057, .053,
72138      *.048, .044, .040, .036, .032, .028, .024, .020, .016, .024,
72139 C   HDGV
72140      *.079, .136, .116, .099, .085, .072, .062, .053, .045, .038,
72141      *.033, .028, .024, .020, .018, .015, .013, .011, .009, .045,
72142 C   LDDV
72143      *.080, .101, .095, .089, .083, .077, .071, .065, .059, .053,
72144      *.047, .041, .035, .029, .023, .017, .011, .008, .006, .008,
72145 C   LDDT
72146      *.067, .085, .081, .077, .073, .069, .065, .061, .057, .053,
72147      *.048, .044, .040, .036, .032, .028, .024, .020, .016, .024,
72148 C   HDDV
72149      *.090, .151, .126, .105, .088, .073, .061, .051, .043, .036,
72150      *.030, .025, .021, .017, .014, .012, .010, .008, .007, .031,
72151 C   MC
72152      * .133, .145, .138, .116, .123, .114, .069, .044, .024, .009,
72153      * .085, .000, .000, .000, .000, .000, .000, .000, .000, .000/
72154 C
72155      END

```



```

73000      BLOCK DATA
73001      C
73002      C BLOCK DATA Subprogram 03
73003      C
73004      C BLOCK DATA 03 defines the first/last years of the model year groups used
73005      C to select the slope & intercept of FTP & idle emission rate equations.
73006      C
73007      C Common block array subscripts:
73008      C
73009      C MYGERQ(20,2,3,8,2) - MYGERQ ( JG, IFL, IP, IV, IR )
73010      C   IFL=1 first year of the model year group,
73011      C   IFL=2 last year of the model year group.
73012      C
73013      C Common block dictionary:
73014      C
73015      C   Name      Type      Description
73016      C -----
73017      C /ERQCOM/:
73018      C
73019      C MYGERQ      I      model year groups for FTP & idle emission rate equation
73020      C                      slope & intercept arrays (ZMLBEF, DRBEF, ZMLIDL, DRIDL)
73021      C
73022      C Local array subscripts:
73023      C
73024      C IERLO<IV>(20,2,3) - IERLO<IV> ( IG, IFL, IP )
73025      C IERHI<IV>(20,2,3) - IERHI<IV> ( IG, IFL, IP )
73026      C
73027      C Local array dictionary:
73028      C
73029      C   Name      Type      Descriptions
73030      C -----
73031      C IERLO<IV>    I      low altitude my groups for FTP & idle emission rates
73032      C IERHI<IV>    I      high altitude my groups for FTP & idle emission rates
73033      C
73034      C Notes:
73035      C
73036      C The dimensions were increased from 15 (in MOBILE2) to 20 and new model
73037      C year groups were installed.
73038      C
73039      C
73040      COMMON /ERQCOM/ MYGERQ(20,2,3,8,2)
73041      C
73042      DIMENSION
73043      * IERLO1(20,2,3),
73044      * IERLO2(20,2,3),
73045      * IERLO3(20,2,3),
73046      * IERLO4(20,2,3),
73047      * IERLO5(20,2,3),
73048      * IERLO6(20,2,3),
73049      * IERLO7(20,2,3),
73050      * IERLO8(20,2,3)
73051      C
73052      EQUIVALENCE
73053      * (MYGERQ(1,1,1,1,1), IERLO1(1,1,1)),
73054      * (MYGERQ(1,1,1,2,1), IERLO2(1,1,1)),
73055      * (MYGERQ(1,1,1,3,1), IERLO3(1,1,1)),
73056      * (MYGERQ(1,1,1,4,1), IERLO4(1,1,1)),
73057      * (MYGERQ(1,1,1,5,1), IERLO5(1,1,1)),

```

Appendix C: MOBILE3 Block Data 03

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```

73058      * (MYGERQ(1,1,1,6,1),IERLO6(1,1,1)),
73059      * (MYGERQ(1,1,1,7,1),IERLO7(1,1,1)),
73060      * (MYGERQ(1,1,1,8,1),IERLO8(1,1,1))
73061      C
73062      DIMENSION
73063      * IERH1(20,2,3),
73064      * IERH2(20,2,3),
73065      * IERH3(20,2,3),
73066      * IERH4(20,2,3),
73067      * IERH5(20,2,3),
73068      * IERH6(20,2,3),
73069      * IERH7(20,2,3),
73070      * IERH8(20,2,3)
73071      C
73072      EQUIVALENCE
73073      * (MYGERQ(1,1,1,1,2),IERH1(1,1,1)),
73074      * (MYGERQ(1,1,1,2,2),IERH2(1,1,1)),
73075      * (MYGERQ(1,1,1,3,2),IERH3(1,1,1)),
73076      * (MYGERQ(1,1,1,4,2),IERH4(1,1,1)),
73077      * (MYGERQ(1,1,1,5,2),IERH5(1,1,1)),
73078      * (MYGERQ(1,1,1,6,2),IERH6(1,1,1)),
73079      * (MYGERQ(1,1,1,7,2),IERH7(1,1,1)),
73080      * (MYGERQ(1,1,1,8,2),IERH8(1,1,1))
73081      C
73082      DATA IERLO1/
73083      C HC
73084      * 1941,1968,1970,1972,1975,1980,1981,1982,1983,1984,
73085      * 1985,1990,0000,0000,0000,0000,0000,0000,0000,0000,
73086      * 1967,1969,1971,1974,1979,1980,1981,1982,1983,1984,
73087      * 1989,2020,0000,0000,0000,0000,0000,0000,0000,0000,
73088      C CO
73089      * 1941,1968,1970,1972,1975,1980,1981,1982,1983,1984,
73090      * 1985,1987,1990,0000,0000,0000,0000,0000,0000,0000,
73091      * 1967,1969,1971,1974,1979,1980,1981,1982,1983,1984,
73092      * 1986,1989,2020,0000,0000,0000,0000,0000,0000,0000,
73093      C NOX
73094      * 1941,1968,1973,1975,1977,1980,1981,1982,1983,1984,
73095      * 1985,1987,1990,0000,0000,0000,0000,0000,0000,0000,
73096      * 1967,1972,1974,1976,1979,1980,1981,1982,1983,1984,
73097      * 1986,1989,2020,0000,0000,0000,0000,0000,0000,0000/
73098      C
73099      C
73100      DATA IERLO2/
73101      C HC
73102      * 1941,1968,1970,1972,1975,1979,1981,1984,1985,1987,
73103      * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
73104      * 1967,1969,1971,1974,1978,1980,1983,1984,1986,2020,
73105      * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
73106      C CO
73107      * 1941,1968,1970,1972,1975,1979,1981,1982,1984,1985,
73108      * 1987,0000,0000,0000,0000,0000,0000,0000,0000,0000,
73109      * 1967,1969,1971,1974,1978,1980,1981,1983,1984,1986,
73110      * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,
73111      C NOX
73112      * 1941,1968,1973,1975,1979,1984,1985,1987,0000,0000,
73113      * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
73114      * 1967,1972,1974,1978,1983,1984,1986,2020,0000,0000,
73115      * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000/

```

Appendix C: MOBILE3 Block Data 03

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73116	C	
73117	C	
73118		DATA IERLO3/
73119	C	HC
73120	*	1941, 1970, 1974, 1979, 1981, 1984, 1985, 1987, 0000, 0000,
73121	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73122	*	1969, 1973, 1978, 1980, 1983, 1984, 1986, 2020, 0000, 0000,
73123	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73124	C	CO
73125	*	1941, 1970, 1974, 1979, 1981, 1982, 1984, 1985, 1987, 0000,
73126	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73127	*	1969, 1973, 1978, 1980, 1981, 1983, 1984, 1986, 2020, 0000,
73128	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73129	C	NOX
73130	*	1941, 1970, 1974, 1979, 1984, 1985, 1987, 0000, 0000, 0000,
73131	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73132	*	1969, 1973, 1978, 1983, 1984, 1986, 2020, 0000, 0000, 0000,
73133	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73134	C	
73135	C	
73136		DATA IERLO4/
73137	C	HC
73138	*	1941, 1963, 1970, 1974, 1978, 1979, 1981, 1983, 1984, 1985,
73139	*	1986, 1987, 1991, 1994, 1997, 0000, 0000, 0000, 0000, 0000,
73140	*	1962, 1969, 1973, 1977, 1978, 1980, 1982, 1983, 1984, 1985,
73141	*	1986, 1990, 1993, 1996, 2020, 0000, 0000, 0000, 0000, 0000,
73142	C	CO
73143	*	1941, 1963, 1970, 1974, 1978, 1979, 1981, 1983, 1984, 1985,
73144	*	1986, 1987, 1991, 1994, 1997, 0000, 0000, 0000, 0000, 0000,
73145	*	1962, 1969, 1973, 1977, 1978, 1980, 1982, 1983, 1984, 1985,
73146	*	1986, 1990, 1993, 1996, 2020, 0000, 0000, 0000, 0000, 0000,
73147	C	NOX
73148	*	1941, 1963, 1970, 1974, 1978, 1979, 1981, 1983, 1984, 1985,
73149	*	1986, 1987, 1991, 1994, 1997, 0000, 0000, 0000, 0000, 0000,
73150	*	1962, 1969, 1973, 1977, 1978, 1980, 1982, 1983, 1984, 1985,
73151	*	1986, 1990, 1993, 1996, 2020, 0000, 0000, 0000, 0000, 0000/
73152	C	
73153	C	
73154		DATA IERLO5/
73155	C	HC
73156	*	1941, 1975, 1977, 1978, 1979, 1980, 0000, 0000, 0000, 0000,
73157	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73158	*	1974, 1976, 1977, 1978, 1979, 2020, 0000, 0000, 0000, 0000,
73159	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73160	C	CO
73161	*	1941, 1975, 1977, 1978, 1979, 1980, 0000, 0000, 0000, 0000,
73162	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73163	*	1974, 1976, 1977, 1978, 1979, 2020, 0000, 0000, 0000, 0000,
73164	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73165	C	NOX
73166	*	1941, 1975, 1977, 1978, 1979, 1980, 1981, 1985, 0000, 0000,
73167	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73168	*	1974, 1976, 1977, 1978, 1979, 1980, 1984, 2020, 0000, 0000,
73169	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73170	C	
73171	C	
73172		DATA IERLO6/
73173	C	HC

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73174	*	1941, 1978, 1981, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73175	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73176	*	1977, 1980, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73177	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73178	C CO	
73179	*	1941, 1978, 1981, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73180	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73181	*	1977, 1980, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73182	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73183	C NOX	
73184	*	1941, 1978, 1981, 1987, 0000, 0000, 0000, 0000, 0000, 0000,
73185	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73186	*	1977, 1980, 1986, 2020, 0000, 0000, 0000, 0000, 0000, 0000,
73187	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73188	C	
73189	C	
73190		DATA IERLO7/
73191	C HC	
73192	*	1941, 1963, 1966, 1969, 1972, 1975, 1980, 1982, 1985, 1986,
73193	*	1987, 1993, 1997, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73194	*	1962, 1965, 1968, 1971, 1974, 1979, 1981, 1984, 1985, 1986,
73195	*	1992, 1996, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73196	C CO	
73197	*	1941, 1963, 1966, 1969, 1972, 1975, 1980, 1982, 1985, 1986,
73198	*	1987, 1993, 1997, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73199	*	1962, 1965, 1968, 1971, 1974, 1979, 1981, 1984, 1985, 1986,
73200	*	1992, 1996, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73201	C NOX	
73202	*	1941, 1963, 1966, 1969, 1972, 1975, 1980, 1982, 1985, 1986,
73203	*	1987, 1993, 1997, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73204	*	1962, 1965, 1968, 1971, 1974, 1979, 1981, 1984, 1985, 1986,
73205	*	1992, 1996, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73206	C	
73207	C	
73208		DATA IERLO8/
73209	C HC	
73210	*	1941, 1978, 1980, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73211	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73212	*	1977, 1979, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73213	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73214	C CO	
73215	*	1941, 1978, 1980, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73216	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73217	*	1977, 1979, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73218	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73219	C NOX	
73220	*	1941, 1978, 1980, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73221	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73222	*	1977, 1979, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73223	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73224	C	
73225	C	
73226		DATA IERHI1/
73227	C HC	
73228	*	1941, 1968, 1970, 1972, 1975, 1977, 1978, 1980, 1981, 1982,
73229	*	1983, 1984, 1985, 1990, 0000, 0000, 0000, 0000, 0000, 0000,
73230	*	1967, 1969, 1971, 1974, 1976, 1977, 1979, 1980, 1981, 1982,
73231	*	1983, 1984, 1989, 2020, 0000, 0000, 0000, 0000, 0000, 0000,

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73232	C	CO
73233	*	1941, 1968, 1970, 1972, 1975, 1977, 1978, 1980, 1981, 1982,
73234	*	1983, 1984, 1985, 1987, 1990, 0000, 0000, 0000, 0000, 0000,
73235	*	1967, 1969, 1971, 1974, 1976, 1977, 1979, 1980, 1981, 1982,
73236	*	1983, 1984, 1986, 1989, 2020, 0000, 0000, 0000, 0000, 0000,
73237	C	NOX
73238	*	1941, 1968, 1973, 1975, 1977, 1978, 1980, 1981, 1982, 1983,
73239	*	1984, 1985, 1987, 1990, 0000, 0000, 0000, 0000, 0000, 0000,
73240	*	1967, 1972, 1974, 1976, 1977, 1979, 1980, 1981, 1982, 1983,
73241	*	1984, 1986, 1989, 2020, 0000, 0000, 0000, 0000, 0000, 0000/
73242	C	
73243	C	
73244		DATA IERH12/
73245	C	HC
73246	*	1941, 1968, 1970, 1972, 1975, 1977, 1978, 1979, 1981, 1982,
73247	*	1984, 1985, 1987, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73248	*	1967, 1969, 1971, 1974, 1976, 1977, 1978, 1980, 1981, 1983,
73249	*	1984, 1986, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73250	C	CO
73251	*	1941, 1968, 1970, 1972, 1975, 1977, 1978, 1979, 1981, 1982,
73252	*	1984, 1985, 1987, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73253	*	1967, 1969, 1971, 1974, 1976, 1977, 1978, 1980, 1981, 1983,
73254	*	1984, 1986, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73255	C	NOX
73256	*	1941, 1968, 1973, 1975, 1977, 1978, 1979, 1981, 1982, 1984,
73257	*	1985, 1987, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73258	*	1967, 1972, 1974, 1976, 1977, 1978, 1980, 1981, 1983, 1984,
73259	*	1986, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73260	C	
73261	C	
73262		DATA IERH13/
73263	C	HC
73264	*	1941, 1970, 1974, 1979, 1981, 1982, 1984, 1985, 1987, 0000,
73265	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73266	*	1969, 1973, 1978, 1980, 1981, 1983, 1984, 1986, 2020, 0000,
73267	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73268	C	CO
73269	*	1941, 1970, 1974, 1979, 1981, 1982, 1984, 1985, 1987, 0000,
73270	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73271	*	1969, 1973, 1978, 1980, 1981, 1983, 1984, 1986, 2020, 0000,
73272	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73273	C	NOX
73274	*	1941, 1970, 1974, 1979, 1981, 1982, 1984, 1985, 1987, 0000,
73275	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73276	*	1969, 1973, 1978, 1980, 1981, 1983, 1984, 1986, 2020, 0000,
73277	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73278	C	
73279	C	
73280		DATA IERH14/
73281	C	HC
73282	*	1941, 1963, 1970, 1974, 1978, 1979, 1981, 1983, 1984, 1985,
73283	*	1986, 1987, 1991, 1994, 1997, 0000, 0000, 0000, 0000, 0000,
73284	*	1962, 1969, 1973, 1977, 1978, 1980, 1982, 1983, 1984, 1985,
73285	*	1986, 1990, 1993, 1996, 2020, 0000, 0000, 0000, 0000, 0000,
73286	C	CO
73287	*	1941, 1963, 1970, 1974, 1978, 1979, 1981, 1983, 1984, 1985,
73288	*	1986, 1987, 1991, 1994, 1997, 0000, 0000, 0000, 0000, 0000,
73289	*	1962, 1969, 1973, 1977, 1978, 1980, 1982, 1983, 1984, 1985,

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73290	*	1986, 1990, 1993, 1996, 2020, 0000, 0000, 0000, 0000, 0000,
73291	C NOX	
73292	*	1941, 1963, 1970, 1974, 1978, 1979, 1981, 1983, 1984, 1985,
73293	*	1986, 1987, 1991, 1994, 1997, 0000, 0000, 0000, 0000, 0000,
73294	*	1962, 1969, 1973, 1977, 1978, 1980, 1982, 1983, 1984, 1985,
73295	*	1986, 1990, 1993, 1996, 2020, 0000, 0000, 0000, 0000, 0000/
73296	C	
73297	C	
73298		DATA IERHI5/
73299	C HC	
73300	*	1941, 1975, 1977, 1978, 1979, 1980, 1982, 1984, 0000, 0000,
73301	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73302	*	1974, 1976, 1977, 1978, 1979, 1981, 1983, 2020, 0000, 0000,
73303	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73304	C CO	
73305	*	1941, 1975, 1977, 1978, 1979, 1980, 1982, 1984, 0000, 0000,
73306	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73307	*	1974, 1976, 1977, 1978, 1979, 1981, 1983, 2020, 0000, 0000,
73308	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73309	C NOX	
73310	*	1941, 1975, 1977, 1978, 1979, 1980, 1981, 1985, 0000, 0000,
73311	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73312	*	1974, 1976, 1977, 1978, 1979, 1980, 1984, 2020, 0000, 0000,
73313	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73314	C	
73315	C	
73316		DATA IERHI6/
73317	C HC	
73318	*	1941, 1978, 1979, 1981, 1984, 0000, 0000, 0000, 0000, 0000,
73319	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73320	*	1977, 1978, 1980, 1983, 2020, 0000, 0000, 0000, 0000, 0000,
73321	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73322	C CO	
73323	*	1941, 1978, 1979, 1981, 1984, 0000, 0000, 0000, 0000, 0000,
73324	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73325	*	1977, 1978, 1980, 1983, 2020, 0000, 0000, 0000, 0000, 0000,
73326	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73327	C NOX	
73328	*	1941, 1978, 1979, 1980, 1981, 1985, 1987, 0000, 0000, 0000,
73329	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73330	*	1977, 1978, 1979, 1980, 1984, 1986, 2020, 0000, 0000, 0000,
73331	*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73332	C	
73333	C	
73334		DATA IERHI7/
73335	C HC	
73336	*	1941, 1963, 1966, 1969, 1972, 1975, 1980, 1982, 1985, 1986,
73337	*	1987, 1993, 1997, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73338	*	1962, 1965, 1968, 1971, 1974, 1979, 1981, 1984, 1985, 1986,
73339	*	1992, 1996, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73340	C CO	
73341	*	1941, 1963, 1966, 1969, 1972, 1975, 1980, 1982, 1985, 1986,
73342	*	1987, 1993, 1997, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73343	*	1962, 1965, 1968, 1971, 1974, 1979, 1981, 1984, 1985, 1986,
73344	*	1992, 1996, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73345	C NOX	
73346	*	1941, 1963, 1966, 1969, 1972, 1975, 1980, 1982, 1985, 1986,
73347	*	1987, 1993, 1997, 0000, 0000, 0000, 0000, 0000, 0000, 0000,

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73348		*	1962, 1965, 1968, 1971, 1974, 1979, 1981, 1984, 1985, 1986,
73349		*	1992, 1996, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73350	C		
73351	C		
73352			DATA IERH18/
73353	C	HC	
73354		*	1941, 1978, 1980, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73355		*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73356		*	1977, 1979, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73357		*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73358	C	CO	
73359		*	1941, 1978, 1980, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73360		*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73361		*	1977, 1979, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73362		*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73363	C	NOX	
73364		*	1941, 1978, 1980, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73365		*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73366		*	1977, 1979, 2020, 0000, 0000, 0000, 0000, 0000, 0000, 0000,
73367		*	0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000/
73368	C		
73369			END


```

74000      BLOCK DATA
74001      C
74002      C BLOCK DATA Subprogram 04
74003      C
74004      C BLOCK DATA 04 initializes the deterioration rates and zero mile levels
74005      C (slopes & intercepts) of the FTP exhaust emission rate equations.
74006      C
74007      C Common block array subscripts:
74008      C
74009      C DRBEF (20,3,8,2) - DRBEF ( IG, IP, IV, IR )
74010      C ZMLBEF (20,3,8,2) - ZMLBEF ( IG, IP, IV, IR )
74011      C
74012      C Common block dictionary:
74013      C
74014      C      Name      Type      Description
74015      C      ----      -
74016      C /BEFCMD/:
74017      C
74018      C DRBEF      R      FTP exhaust deterioration rates
74019      C
74020      C /BEFCMZ/:
74021      C
74022      C ZMLBEF      R      FTP exhaust zero mile emission levels
74023      C
74024      C Local array subscripts:
74025      C
74026      C <J><K><L> (20,3,2) - <J><K><L> ( IG, IP, IVER )
74027      C
74028      C where <J> = D (deterioration rate), Z (zero mile level)
74029      C      <K> = L (low altitude region), H (high altitude region)
74030      C      <L> = 1 (LDGV,LDGT1), 2 (LDGT2,HOGV), 3 (LDDV,LDDT), 4 (HDDV,MC)
74031      C      IVER = 1 (1st of vt pair K), 2 (2nd of vt pair K)
74032      C
74033      C Local array dictionary:
74034      C
74035      C      Name      Type      Descriptions
74036      C      ----      -
74037      C <J><K><L>      R      as defined above, the slope/intercept <J> in region <K>
74038      C      for vehicle type pair <L> of the FTP exhaust emission
74039      C      rate equation
74040      C
74041      C Notes:
74042      C
74043      C New DRs and ZMLs were installed for 1975+ years. The my group dimension
74044      C increased in all arrays from 15 (in MOBILE2) to 20.
74045      C
74046      C      COMMON /BEFCMD/ DRBEF (20,3,8,2)
74047      C      COMMON /BEFCMZ/ ZMLBEF (20,3,8,2)
74048      C
74049      C      DIMENSION DL1 (20,3,2),DL2 (20,3,2),DL3 (20,3,2),DL4 (20,3,2)
74050      C      DIMENSION DH1 (20,3,2),DH2 (20,3,2),DH3 (20,3,2),DH4 (20,3,2)
74051      C      DIMENSION ZL1 (20,3,2),ZL2 (20,3,2),ZL3 (20,3,2),ZL4 (20,3,2)
74052      C      DIMENSION ZH1 (20,3,2),ZH2 (20,3,2),ZH3 (20,3,2),ZH4 (20,3,2)
74053      C
74054      C      EQUIVALENCE
74055      C      * (DRBEF (1,1,1,1),DL1 (1,1,1)), (DRBEF (1,1,3,1),DL2 (1,1,1)),
74056      C      * (DRBEF (1,1,5,1),DL3 (1,1,1)), (DRBEF (1,1,7,1),DL4 (1,1,1)),
74057      C      * (DRBEF (1,1,1,2),DH1 (1,1,1)), (DRBEF (1,1,3,2),DH2 (1,1,1)),

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74058 * (DRBEF (1,1,5,2),DH3 (1,1,1)), (DRBEF (1,1,7,2),DH4 (1,1,1))

74059 C

74060 EQUIVALENCE

74061 * (ZMLBEF (1,1,1,1),ZL1 (1,1,1)), (ZMLBEF (1,1,3,1),ZL2 (1,1,1)),

74062 * (ZMLBEF (1,1,5,1),ZL3 (1,1,1)), (ZMLBEF (1,1,7,1),ZL4 (1,1,1)),

74063 * (ZMLBEF (1,1,1,2),ZH1 (1,1,1)), (ZMLBEF (1,1,3,2),ZH2 (1,1,1)),

74064 * (ZMLBEF (1,1,5,2),ZH3 (1,1,1)), (ZMLBEF (1,1,7,2),ZH4 (1,1,1))

74065 C

74066 C FTP exhaust emission zero mileage emission levels & deterioration

74067 C (per 10000 miles) rates. 1 line per pollutant for each vehicle type

74068 C

74069 C Deterioration rates

74070 C

74071 C Low altitude region

74072 C

74073 DATA DL1/

74074 C LDGV

74075 * 0.18, 0.25, 0.37, 0.17, 0.27, 0.10, 0.12, 0.12, 0.12, 0.13,

74076 * 0.12, 0.11, 8*0.,

74077 * 2.25, 2.55, 3.13, 2.44, 2.59, 0.73, 1.90, 1.91, 1.90, 2.07,

74078 * 1.96, 1.87, 1.82, 7*0.,

74079 * 0.00, 0.00, 0.04, 0.03, 0.09, 0.07, 0.08, 0.08, 0.08, 0.09,

74080 * 0.09, 0.10, 0.10, 7*0.,

74081 C LDGT1

74082 * 0.18, 0.25, 0.37, 0.17, 0.27, 0.27, 0.19, 0.13, 0.07, 0.06, 10*0.,

74083 * 2.25, 2.55, 3.13, 2.44, 2.59, 2.59, 1.13, 1.13, 0.98, 0.49, 0.93,

74084 * 9*0.,

74085 * 0.00, 0.00, 0.04, 0.03, 0.09, 0.09, 0.04, 0.04, 12*0./

74086 DATA DL2/

74087 C LDGT2

74088 * 0.18, 0.25, 0.17, 0.27, 0.19, 0.13, 0.07, 0.06, 12*0.,

74089 * 2.25, 2.55, 2.44, 2.59, 1.13, 1.13, 0.98, 0.49, 0.91, 11*0.,

74090 * 0.00, 0.00, 0.04, 0.09, 0.09, 0.04, 0.04, 13*0.,

74091 C HDGV

74092 * 0.31, 0.32, 0.37, 0.22, 0.19, 0.19, 0.17, 0.17, 0.17, 0.06,

74093 * 0.06, 0.09, 0.08, 0.08, 0.08, 5*0.,

74094 * 4.81, 4.99, 6.68, 5.74, 5.07, 4.83, 4.50, 4.45, 4.47, 0.92,

74095 * 0.93, 0.58, 0.57, 0.55, 0.54, 5*0.,

74096 * 0.00, 0.00, 0.00, 0.07, 0.06, 0.06, 0.06, 0.06, 0.06, 0.03,

74097 * 0.03, 0.10, 0.09, 0.09, 0.09, 5*0./

74098 DATA DL3/

74099 C LDDV

74100 * 0.08, 0.07, 0.07, 0.07, 0.07, 0.03, 14*0.,

74101 * 0.13, 0.09, 0.09, 0.09, 0.09, 0.04, 14*0.,

74102 * 0.04, 0.04, 0.04, 0.04, 0.04, 0.04, 0.03, 0.03, 12*0.,

74103 C LDDT

74104 * 0.08, 0.08, 0.04, 17*0.,

74105 * 0.10, 0.10, 0.04, 17*0.,

74106 * 0.08, 0.08, 0.03, 0.03, 16*0./

74107 DATA DL4/

74108 C HDDV

74109 * 0.05, 0.05, 0.06, 0.06, 0.06, 0.06, 0.06, 0.05, 0.02, 0.02,

74110 * 0.02, 0.02, 0.02, 7*0.,

74111 * 0.14, 0.14, 0.14, 0.15, 0.16, 0.16, 0.14, 0.13, 0.12, 0.12,

74112 * 0.12, 0.12, 0.11, 7*0.,

74113 * 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,

74114 * 0.05, 0.05, 0.05, 7*0.,

74115 C MC

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74116      * 0.78, 1.65, 1.73, 17*0.,
74117      * 2.47, 3.96, 2.02, 17*0.,
74118      * 0.06, 0.00, 0.00, 17*0./
74119      C
74120      C High altitude region
74121      C
74122      DATA DH1/
74123      C LDGV
74124      * 0.18, 0.25, 0.37, 0.17, 0.27, 0.27, 0.27, 0.10, 0.14, 0.14,
74125      * 0.14, 0.15, 0.14, 0.13, 6*0.,
74126      * 2.25, 2.55, 3.13, 2.44, 2.59, 2.59, 2.59, 0.73, 3.26,
74127      * 3.29, 3.33, 3.55, 3.35, 3.13, 3.05, 5*0.,
74128      * 0.0 , 0.0 , 0.04, 0.03, 0.09, 0.09, 0.07, 0.08, 0.08,
74129      * 0.08, 0.09, 0.09, 0.10, 0.10, 6*0.,
74130      C LDGT1
74131      * 0.18, 0.25, 0.37, 0.17, 0.27, 0.27, 0.27, 0.27, 0.19,
74132      * 0.19, 0.13, 0.07, 0.07, 7*0.,
74133      * 2.25, 2.25, 3.13, 2.44, 2.59, 2.59, 2.59, 1.13,
74134      * 1.13, 0.98, 0.49, 1.56, 7*0.,
74135      * 0.0 , 0.0 , 0.04, 0.03, 0.03, 0.03, 0.09, 0.09, 0.09,
74136      * 0.09, 0.04, 0.04, 8*0./
74137      DATA DH2/
74138      C LDGT2
74139      * 0.18, 0.25, 0.17, 0.27, 0.19, 0.19, 0.13, 0.07, 0.06, 11*0.,
74140      * 2.25, 2.55, 2.44, 2.59, 1.13, 1.13, 0.98, 0.49, 0.91, 11*0.,
74141      * 0.0 , 0.0 , 0.04, 0.09, 0.09, 0.09, 0.09, 0.04, 0.04, 11*0.,
74142      C HDGV
74143      * 0.31, 0.32, 0.37, 0.22, 0.19, 0.19, 0.17, 0.17, 0.17, 0.06,
74144      * 0.06, 0.09, 0.08, 0.08, 0.08, 5*0.,
74145      * 4.81, 4.99, 6.68, 5.74, 5.07, 4.83, 4.50, 4.45, 4.47, 0.92,
74146      * 0.93, 0.58, 0.57, 0.55, 0.54, 5*0.,
74147      * 0.00, 0.00, 0.00, 0.07, 0.06, 0.06, 0.06, 0.06, 0.06, 0.03,
74148      * 0.03, 0.10, 0.09, 0.09, 0.09, 5*0./
74149      DATA DH3/
74150      C LDDV
74151      * 0.08, 0.07, 0.07, 0.07, 0.07, 0.03, 0.03, 0.03, 12*0.,
74152      * 0.13, 0.09, 0.09, 0.09, 0.09, 0.04, 0.04, 0.04, 12*0.,
74153      * 0.04, 0.04, 0.04, 0.04, 0.04, 0.04, 0.03, 0.03, 12*0.,
74154      C LDDT
74155      * 0.08, 0.08, 0.08, 0.04, 0.04, 15*0.,
74156      * 0.10, 0.10, 0.10, 0.10, 0.04, 0.04, 14*0.,
74157      * 0.06, 0.06, 0.06, 0.06, 0.03, 0.03, 0.03, 13*0./
74158      DATA DH4/
74159      C HDDV
74160      * 0.05, 0.05, 0.06, 0.06, 0.06, 0.06, 0.06, 0.05, 0.02, 0.02,
74161      * 0.02, 0.02, 0.02, 7*0.,
74162      * 0.14, 0.14, 0.14, 0.15, 0.16, 0.16, 0.14, 0.13, 0.12, 0.12,
74163      * 0.12, 0.12, 0.11, 7*0.,
74164      * 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
74165      * 0.05, 0.05, 0.05, 7*0.,
74166      C MC
74167      * 0.78, 1.65, 1.73, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 11*0.,
74168      * 2.47, 3.96, 2.02, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 11*0.,
74169      * 0.06, 0.0 , 0.0 , 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 11*0./
74170      C
74171      C Zero mile exhaust levels
74172      C
74173      C Low altitude region

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74174 C
 74175 DATA ZL1/
 74176 C LDGV
 74177 * 7.25, 4.43, 3.00, 3.36, 1.07, 0.36, 0.25, 0.22, 0.21, 0.20,
 74178 * 0.20, 0.20, 8*0.,
 74179 * 78.27, 56.34, 42.17, 40.78, 18.23, 6.09, 2.13, 1.09, 1.09, 0.99,
 74180 * 1.04, 1.11, 1.14, 7*0.,
 74181 * 3.44, 4.35, 2.87, 2.44, 1.70, 1.50, 0.59, 0.63, 0.56, 0.53,
 74182 * 0.53, 0.53, 0.53, 7*0.,
 ,4183 C LDGT1
 74184 * 7.25, 4.43, 3.00, 3.36, 1.80, 0.92, 0.92, 0.58, 0.45, 0.51, 10*0.,
 74185 * 78.27, 56.34, 42.17, 40.78, 24.55, 13.67, 13.67, 13.67, 7.41, 6.43, 5.60,
 74186 * 9*0.,
 74187 * 3.44, 4.35, 2.87, 2.70, 1.74, 1.74, 1.74, 0.86, 12*0./
 74188 DATA ZL2/
 74189 C LDGT2
 74190 * 9.57, 6.28, 6.28, 0.92, 0.92, 0.58, 0.45, 0.51, 12*0.,
 74191 * 93.98, 60.08, 60.08, 13.67, 13.67, 13.67, 7.41, 6.43, 5.60, 11*0.,
 74192 * 5.44, 6.45, 4.61, 1.74, 1.74, 1.74, 0.86, 13*0.,
 74193 C HDGV
 74194 * 16.49, 17.08, 9.21, 8.28, 7.31, 3.07, 2.86, 2.83, 2.84, 2.45,
 74195 * 2.16, 0.97, 0.95, 0.93, 0.91, 5*0.,
 74196 * 200.80, 208.10, 157.48, 141.48, 124.90, 104.78, 97.71, 96.53, 97.15,
 74197 * 38.30, 30.45, 13.26, 12.98, 12.63, 12.39, 5*0.,
 74198 * 7.87, 8.15, 9.35, 6.12, 5.41, 5.14, 4.80, 4.74, 4.77, 4.79,
 74199 * 4.82, 4.60, 4.50, 4.38, 4.30, 5*0./
 74200 DATA ZL3/
 74201 C LDDV
 74202 * 1.31, 0.42, 0.42, 0.42, 0.42, 0.29, 14*0.,
 74203 * 2.71, 1.17, 1.17, 1.17, 1.17, 1.15, 14*0.,
 74204 * 1.46, 1.40, 1.40, 1.40, 1.40, 1.40, 1.31, 0.87, 12*0.,
 74205 C LDDT
 74206 * 0.86, 0.86, 0.43, 17*0.,
 74207 * 1.97, 1.97, 1.33, 17*0.,
 74208 * 1.83, 1.83, 1.48, 0.94, 16*0./
 74209 DATA ZL4/
 74210 C HDDV
 74211 * 3.37, 3.36, 3.48, 3.70, 3.93, 3.89, 3.53, 3.25, 3.11, 2.50,
 74212 * 2.43, 2.39, 2.37, 7*0.,
 74213 * 9.84, 9.80, 10.15, 10.80, 11.46, 11.18, 9.50, 8.75, 8.45, 8.30,
 74214 * 8.07, 7.93, 7.86, 7*0.,
 74215 * 21.94, 21.85, 22.61, 24.06, 25.53, 24.77, 20.50, 18.88, 18.23, 17.90,
 74216 * 11.19, 10.98, 10.89, 7*0.,
 74217 C MC
 74218 * 8.90, 3.40, 2.70, 17*0.,
 74219 * 34.30, 23.10, 18.50, 17*0.,
 74220 * 0.20, 0.65, 0.85, 17*0./
 74221 C
 74222 C High altitude region
 74223 C
 74224 DATA ZH1/
 74225 C LDGV
 74226 * 9.35, 5.60, 4.58, 4.58, 2.02, 0.95, 2.10, 0.78, 0.54, 0.37,
 74227 * 0.36, 0.29, 0.29, 0.29, 6*0.,
 74228 * 117.70, 85.54, 79.64, 75.63, 43.07, 16.97, 39.78, 22.80,
 74229 * 11.43, 7.18, 5.01, 3.18, 3.16, 3.02, 3.03, 5*0.,
 74230 * 1.96, 2.91, 1.91, 1.70, 1.42, 1.00, 0.82, 0.46,
 74231 * 0.60, 0.56, 0.54, 0.54, 0.54, 0.54, 6*0.,


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74232 C LDGT1
74233 *9.35, 5.60, 4.58, 4.58, 3.40, 1.60, 3.53, 1.81, 1.81,
74234 *1.08, 0.72, 0.55, 0.62, 7*0.,
74235 *117.70,85.54,79.64,75.63,58.01,22.86,53.57,29.83,29.83,
74236 * 19.75,12.95, 8.88, 7.74, 7*0.,
74237 * 1.96, 2.91, 1.91, 1.88, 2.25, 1.88, 1.02, 1.02,
74238 * 1.74, 1.74, 1.74, 0.86, 8*0./
74239 DATA ZH2/
74240 C LDGT2
74241 *12.35, 8.56, 8.56, 1.81, 1.81, 1.08, 0.72, 0.55, 0.62,11*0.,
74242 *141.35,107.72,107.72,29.83,29.83,19.75,12.95,8.88,7.74,11*0.,
74243 * 3.10, 4.32, 3.07, 1.02, 1.02, 1.74, 1.74, 1.74, 0.86,11*0.,
74244 C HDGV
74245 *22.46,23.28,12.55,11.28, 9.96, 4.18, 3.90, 3.85, 3.87, 3.34,
74246 * 2.94, 1.60, 1.56, 1.52, 1.49, 5*0.,
74247 *360.04,373.12,282.36,253.67,223.94,187.87,175.19,173.09,
74248 *174.18, 68.67, 54.59, 34.41, 33.68, 32.77, 32.14, 5*0.,
74249 * 5.24, 5.43, 6.23, 4.08, 3.60, 3.43, 3.20, 3.16, 3.18, 3.19,
74250 * 3.21, 3.64, 3.56, 3.46, 3.40, 5*0./
74251 DATA ZH3/
74252 C LDDV
74253 * 3.01, 0.97, 0.97, 0.97, 0.97, 0.67, 0.40, 0.29,12*0.,
74254 * 4.74, 2.05, 2.05, 2.05, 2.05, 2.01, 2.01, 1.15,12*0.,
74255 * 1.46, 1.40, 1.40, 1.40, 1.40, 1.40, 1.31, 0.87,12*0.,
74256 C LDDT
74257 * 1.98, 1.98, 1.98, 0.99, 0.54, 15*0.,
74258 * 3.45, 3.45, 3.45, 3.45, 2.33, 2.33, 14*0.,
74259 * 1.83, 1.83, 1.83, 1.83, 1.48, 1.48, 0.94, 13*0./
74260 DATA ZH4/
74261 C HDDV
74262 * 7.76, 7.73, 8.00, 8.51, 9.03, 8.95, 8.11, 7.47, 7.16, 5.75,
74263 * 5.59, 5.49, 5.44, 7*0.,
74264 *17.22,17.15,17.75,18.89,20.04,19.56,16.64,15.32,14.80,14.53,
74265 *14.14,13.88,13.76, 7*0.,
74266 *21.94,21.85,22.61,24.06,25.53,24.77,20.50,18.88,18.23,17.90,
74267 *11.19,10.98,10.89, 7*0.,
74268 C MC
74269 * 11.48, 4.30, 4.12, 0.00, 0.00, 0.0, 0.0, 0.0, 12*0.,
74270 * 51.59, 35.07, 34.95, 0.00, 0.00, 0.0, 0.0, 0.0, 12*0.,
74271 * 0.11, 0.43, 0.57, 0.00, 0.00, 0.00, 0.00, 0.00, 12*0./
74272 C
74273 END

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75000      BLOCK DATA
75001      C
75002      C BLOCK DATA Subprogram 05
75003      C
75004      C BLOCK DATA 05 initializes the deterioration rates and zero mile levels
75005      C (slopes & intercepts) of the idle exhaust emission rate equations.
75006      C
75007      C Common block array subscripts:
75008      C
75009      C DRIDL(20,3,8,2) - DRIDL ( IG, IP, IV, IR )
75010      C ZMLIDL(20,3,8,2) - ZMLIDL ( IG, IP, IV, IR )
75011      C
75012      C Common block dictionary:
75013      C
75014      C   Name      Type      Description
75015      C -----
75016      C /IDL CMD/:
75017      C
75018      C DRIDL      R      idle exhaust deterioration rates
75019      C
75020      C /IDL CMZ/:
75021      C
75022      C ZMLIDL      R      idle exhaust zero mile emission levels
75023      C
75024      C Local array subscripts:
75025      C
75026      C I<J><K><L>(20,3,2) - I<J><K><L> ( IG, IP, IVER )
75027      C
75028      C where <J> = D (deterioration rate), Z (zero mile level)
75029      C          <K> = L (low altitude region), H (high altitude region)
75030      C          <L> = 1 (LDGV,LDGT1), 2 (LDGT2,HOGV), 3 (LDDV,LDDT), 4 (HDDV,MC)
75031      C          IVER = 1 (1st of vt pair K), 2 (2nd of vt pair K)
75032      C
75033      C Local array dictionary:
75034      C
75035      C   Name      Type      Descriptions
75036      C -----
75037      C I<J><K><L>      R      as defined above, the slope/intercept <J> in region <K>
75038      C                      for vehicle type pair <L> of the idle exhaust emission
75039      C                      rate equation
75040      C
75041      C Notes:
75042      C
75043      C The my group dimension was increased from 15 (in MOBILE2) to 20 for both
75044      C arrays. The levels and rates were updated for 1981+ years.
75045      C
75046      C COMMON /IDL CMD/ DRIDL(20,3,8,2)
75047      C COMMON /IDL CMZ/ ZMLIDL(20,3,8,2)
75048      C
75049      C REAL IDL1(20,3,2),IDL2(20,3,2),IDL3(20,3,2),IDL4(20,3,2)
75050      C REAL IDH1(20,3,2),IDH2(20,3,2),IDH3(20,3,2),IDH4(20,3,2)
75051      C REAL IZL1(20,3,2),IZL2(20,3,2),IZL3(20,3,2),IZL4(20,3,2)
75052      C REAL IZH1(20,3,2),IZH2(20,3,2),IZH3(20,3,2),IZH4(20,3,2)
75053      C
75054      C EQUIVALENCE
75055      C * (DRIDL(1,1,1,1),IDL1(1,1,1)), (DRIDL(1,1,3,1),IDL2(1,1,1)),
75056      C * (DRIDL(1,1,5,1),IDL3(1,1,1)), (DRIDL(1,1,7,1),IDL4(1,1,1)),
75057      C * (DRIDL(1,1,1,2),IDH1(1,1,1)), (DRIDL(1,1,3,2),IDH2(1,1,1)),

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75058 * (DRIDL(1,1,5,2),IDH3(1,1,1)), (DRIDL(1,1,7,2),IDH4(1,1,1))

75059 C

75060 EQUIVALENCE

75061 * (ZMLIDL(1,1,1,1),IZL1(1,1,1)), (ZMLIDL(1,1,3,1),IZL2(1,1,1)),

75062 * (ZMLIDL(1,1,5,1),IZL3(1,1,1)), (ZMLIDL(1,1,7,1),IZL4(1,1,1)),

75063 * (ZMLIDL(1,1,1,2),IZH1(1,1,1)), (ZMLIDL(1,1,3,2),IZH2(1,1,1)),

75064 * (ZMLIDL(1,1,5,2),IZH3(1,1,1)), (ZMLIDL(1,1,7,2),IZH4(1,1,1))

75065 C

75066 C Idle exhaust emission deterioration (per 10000 miles) rates and zero mile

75067 C levels. 1 line per pollutant for each vehicle type

75068 C

75069 C Deterioration rates

75070 C

75071 C Low altitude region

75072 C

75073 DATA IDL1/

75074 C LDGV

75075 * 0.03, 0.06, 0.07, 0.07, 0.07, 0.04, 0.04, 0.04, 0.04, 0.04,

75076 * 0.04, 0.04, 8*0.,

75077 * 0.40, 0.63, 0.88, 0.76, 0.85, 0.85, 0.82, 0.81, 0.82, 0.82,

75078 * 0.82, 0.82, 0.82, 7*0.,

75079 * 0.00, 0.00, 0.00, 0.00, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01,

75080 * 0.01, 0.01, 0.01, 7*0.,

75081 C LDGT1

75082 * 0.03, 0.06, 0.07, 0.04, 0.06, 0.02, 0.02, 0.02, 0.01, 0.01, 10*0.,

75083 * 0.40, 0.63, 0.88, 0.76, 0.72, 0.32, 0.27, 0.24, 0.14, 0.18, 0.18,

75084 * 9*0.,

75085 * 20*0./

75086 DATA IDL2/

75087 C LDGT2

75088 * 0.03, 0.04, 0.03, 0.02, 0.02, 0.01, 0.01, 0.01, 12*0.,

75089 * 0.45, 0.52, 0.49, 0.32, 0.27, 0.24, 0.14, 0.18, 0.18, 11*0.,

75090 * 20*0.,

75091 C HDGV

75092 * 0.04, 0.04, 0.04, 0.02, 0.02, 0.01, 0.02, 0.03, 0.03, 0.03,

75093 * 0.03, 0.03, 0.03, 0.03, 0.03, 5*0.,

75094 * 0.53, 0.53, 0.28, 0.27, 0.27, 0.28, 0.28, 0.28, 0.14, 0.18,

75095 * 0.18, 0.18, 0.18, 0.18, 0.18, 5*0.,

75096 * 20*0./

75097 DATA IDL3/

75098 C LDDV

75099 * 0.01, 0.00, 0.00, 0.00, 0.00, 0.00, 14*0.,

75100 * 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 14*0.,

75101 * 0.00, 0.00, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 12*0.,

75102 C LDDT

75103 * 0.01, 0.01, 0.01, 17*0.,

75104 * 0.02, 0.01, 0.01, 17*0.,

75105 * 0.01, 0.01, 0.01, 0.01, 16*0./

75106 DATA IDL4/

75107 C HDDV

75108 * 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,

75109 * 0.00, 0.00, 0.00, 7*0.,

75110 * 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01,

75111 * 0.01, 0.01, 0.01, 7*0.,

75112 * 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,

75113 * 0.00, 0.00, 0.00, 7*0.,

75114 C MC

75115 * 0.42, 0.36, 0.38, 17*0.,

75116 * 0.23, 0.50, 0.26, 17*0.,
 75117 * 0.00, 0.00, 0.00, 17*0./
 75118 C
 75119 C High altitude region
 75120 C
 75121 DATA IDH1/
 75122 C LDGV
 75123 H 0.03, 0.06, 0.07, 0.04, 0.07, 0.03, 0.03, 0.03, 0.03,
 75124 H 0.03, 0.03, 0.03, 0.03, 0.03, 6*0.,
 75125 C 0.40, 0.63, 0.88, 0.76, 0.85, 0.42, 0.42, 0.42, 0.61,
 75126 C 0.61, 0.61, 0.62, 0.62, 0.62, 0.62, 5*0.,
 75127 N 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.01, 0.01,
 75128 N 0.01, 0.01, 0.01, 0.01, 0.01, 6*0.,
 75129 C LDGT1
 75130 H 0.03, 0.06, 0.07, 0.04, 0.06, 0.06, 0.06, 0.02, 0.02,
 75131 H 0.02, 0.01, 0.01, 0.01, 7*0.,
 75132 C 0.40, 0.63, 0.88, 0.76, 0.72, 0.72, 0.32, 0.27,
 75133 C 0.24, 0.14, 0.28, 0.28, 7*0.,
 75134 N 20*0./
 75135 DATA IDH2/
 75136 C LDGT2
 75137 H 0.03, 0.04, 0.03, 0.02, 0.02, 0.02, 0.01, 0.01, 0.01, 11*0.,
 75138 C 0.45, 0.52, 0.49, 0.32, 0.27, 0.24, 0.14, 0.28, 0.28, 11*0.,
 75139 N 20*0.,
 75140 C HDGV
 75141 * 0.04, 0.04, 0.04, 0.02, 0.02, 0.01, 0.01, 0.01, 0.03, 0.04,
 75142 * 0.04, 0.04, 0.04, 0.04, 0.04, 5*0.,
 75143 * 0.53, 0.53, 0.28, 0.27, 0.27, 0.28, 0.28, 0.28, 0.14, 0.28,
 75144 * 0.28, 0.28, 0.28, 0.28, 0.28, 5*0.,
 75145 * 20*0./
 75146 DATA IDH3/
 75147 C LDDV
 75148 H 0.01, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.0 , 11*0.,
 75149 C 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.0 , 11*0.,
 75150 N 0.0 , 0.0 , 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.00, 11*0.,
 75151 C LDDT
 75152 H 0.01, 0.01, 0.01, 0.00, 0.00, 0.0 , 0.0 , 0.0 , 0.0 , 11*0.,
 75153 C 0.02, 0.01, 0.01, 0.00, 0.00, 0.0 , 0.0 , 0.0 , 0.0 , 11*0.,
 75154 N 0.01, 0.01, 0.01, 0.01, 0.00, 0.0 , 0.0 , 0.0 , 0.0 , 11*0./
 75155 DATA IDH4/
 75156 C HDDV
 75157 * 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
 75158 * 0.00, 0.00, 0.00, 7*0.,
 75159 * 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01, 0.01,
 75160 * 0.01, 0.01, 0.01, 7*0.,
 75161 * 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
 75162 * 0.00, 0.00, 0.00, 7*0.,
 75163 C MC
 75164 H 0.42, 0.36, 0.38, 0.00, 0.00, 0.0 , 0.0 , 0.0 , 0.0 , 11*0.,
 75165 C 0.23, 0.50, 0.26, 0.00, 0.00, 0.0 , 0.0 , 0.0 , 0.0 , 11*0.,
 75166 N 0.0 , 0.0 , 0.0 , 0.0 , 0.00, 0.0 , 0.0 , 0.0 , 0.0 , 11*0./
 75167 C
 75168 C Zero mile levels
 75169 C
 75170 C Low altitude region
 75171 C
 75172 DATA IZL1/
 75173 C LDGV

75174 * 1.32, 1.07, 0.54, 0.72, 0.30, 0.07, 0.09, 0.09, 0.09, 0.09,
 75175 * 0.09, 0.09, 8*0.,
 75176 * 13.76, 13.99, 11.84, 12.66, 6.00, 1.83, 1.63, 1.55, 1.48, 1.48,
 75177 * 1.48, 1.48, 1.48, 7*0.,
 75178 * 0.09, 0.17, 0.14, 0.26, 0.18, 0.17, 0.08, 0.08, 0.08, 0.08,
 75179 * 0.08, 0.08, 0.08, 7*0.,
 75180 C LDGT1
 75181 * 1.32, 1.07, 0.54, 0.72, 0.37, 0.07, 0.06, 0.04, 0.03, 0.03, 10*0.,
 75182 * 13.76, 13.99, 11.84, 12.66, 6.27, 1.57, 1.31, 1.19, 0.69, 0.34, 0.34,
 75183 * 9*0.,
 75184 * 0.09, 0.17, 0.14, 0.06, 0.06, 0.05, 0.02, 0.02, 12*0./
 75185 DATA IZL2/
 75186 C LDGT2
 75187 * 1.67, 1.06, 1.06, 0.07, 0.06, 0.04, 0.03, 0.03, 12*0.,
 75188 * 18.98, 11.53, 11.53, 1.57, 1.31, 1.19, 0.69, 0.34, 0.34, 11*0.,
 75189 * 0.08, 0.10, 0.07, 0.06, 0.05, 0.02, 0.02, 13*0.,
 75190 C HDGV
 75191 * 2.29, 2.29, 0.85, 0.85, 0.85, 0.14, 0.43, 0.43, 0.43, 0.10,
 75192 * 0.10, 0.10, 0.10, 0.10, 0.10, 5*0.,
 75193 * 22.18, 22.18, 6.15, 6.15, 6.15, 6.42, 6.42, 0.70, 0.34,
 75194 * 0.34, 0.34, 0.34, 0.34, 0.34, 5*0.,
 75195 * 0.04, 0.04, 0.05, 0.06, 0.06, 0.06, 0.06, 0.06, 0.07, 0.01,
 75196 * 0.01, 0.01, 0.01, 0.01, 0.01, 5*0./
 75197 DATA IZL3/
 75198 C LDDV
 75199 * 0.14, 0.03, 0.04, 0.06, 0.05, 0.03, 14*0.,
 75200 * 0.23, 0.14, 0.16, 0.17, 0.18, 0.15, 14*0.,
 75201 * 0.13, 0.22, 0.17, 0.20, 0.18, 0.19, 0.14, 0.09, 12*0.,
 75202 C LDDT
 75203 * 0.08, 0.10, 0.07, 17*0.,
 75204 * 0.30, 0.31, 0.31, 17*0.,
 75205 * 0.19, 0.32, 0.34, 0.13, 16*0./
 75206 DATA IZL4/
 75207 C HDDV
 75208 * 0.36, 0.36, 0.36, 0.36, 0.36, 0.36, 0.36, 0.36, 0.27, 0.27,
 75209 * 0.27, 0.27, 0.27, 7*0.,
 75210 * 0.67, 0.67, 0.67, 0.67, 0.67, 0.67, 0.67, 0.67, 0.67, 0.67,
 75211 * 0.67, 0.67, 0.67, 7*0.,
 75212 * 0.92, 0.92, 0.92, 0.92, 0.92, 0.92, 0.92, 0.92, 0.22, 0.22,
 75213 * 0.22, 0.22, 0.22, 7*0.,
 75214 C MC
 75215 * 1.95, 0.74, 0.59, 17*0.,
 75216 * 4.33, 2.92, 2.34, 17*0.,
 75217 * 0.01, 0.03, 0.04, 17*0./
 75218 C
 75219 C High altitude region
 75220 C
 75221 DATA IZH1/
 75222 C LDGV
 75223 H 1.63, 0.76, 0.71, 0.74, 0.27, 0.12, 0.24, 0.05, 0.07,
 75224 H 0.06, 0.06, 0.06, 0.05, 0.05, 6*0.,
 75225 C 15.98, 11.24, 12.93, 13.99, 7.42, 2.87, 5.79, 2.68, 1.74,
 75226 C 1.46, 1.44, 1.06, 1.06, 1.06, 1.06, 5*0.,
 75227 N 0.11, 0.09, 0.07, 0.07, 0.06, 0.04, 0.04, 0.03, 0.03,
 75228 N 0.03, 0.03, 0.03, 0.03, 0.03, 6*0.,
 75229 C LDGT1
 75230 H 1.63, 0.76, 0.71, 0.74, 0.33, 0.15, 0.30, 0.06, 0.10,
 75231 H 0.07, 0.04, 0.04, 0.04, 7*0.,

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75232      C 15.98, 11.24, 12.93, 13.99, 7.76, 3.00, 6.05, 1.52, 2.27,
75233      C 1.72, 0.69, 0.49, 0.49, 7*0.,
75234      N 0.11, 0.09, 0.07, 0.02, 0.02, 0.01, 0.01, 0.06, 0.06,
75235      N 0.05, 0.02, 0.02, 8*0./
75236      DATA IZH2/
75237      C LDGT2
75238      H 2.06, 1.09, 1.09, 0.06, 0.10, 0.07, 0.04, 0.04, 0.04, 11*0.,
75239      C 22.04, 12.74, 12.74, 1.52, 2.27, 1.72, 0.69, 0.49, 0.49, 11*0.,
75240      N 0.10, 0.05, 0.04, 0.01, 0.06, 0.06, 0.05, 0.02, 0.02, 11*0.,
75241      C HDGV
75242      H 2.83, 2.83, 0.87, 0.87, 0.87, 0.44, 0.44, 0.44, 0.23, 0.12,
75243      H 0.12, 0.12, 0.12, 0.12, 0.12, 5*0.,
75244      C 25.75, 25.75, 6.80, 6.80, 6.80, 7.09, 7.09, 7.09, 1.21, 0.49,
75245      C 0.49, 0.49, 0.49, 0.49, 0.49, 5*0.,
75246      N 0.05, 0.05, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03, 0.07, 0.01,
75247      N 0.01, 0.01, 0.01, 0.01, 0.01, 5*0./
75248      DATA IZH3/
75249      C LDDV
75250      H 0.32, 0.07, 0.09, 0.14, 0.12, 0.07, 0.04, 0.03, 0.0, 11*0.,
75251      C 00.40, 00.25, 0.28, 0.30, 0.32, 0.26, 0.26, 0.15, 0.0, 11*0.,
75252      N 0.13, 0.22, 0.17, 0.20, 0.18, 0.19, 0.14, 0.09, 0.00, 11*0.,
75253      C LDDT
75254      H 0.18, 0.23, 0.23, 0.07, 0.07, 15*0.,
75255      C 0.53, 0.54, 0.54, 0.54, 0.31, 0.31, 14*0.,
75256      N 0.19, 0.32, 0.32, 0.32, 0.34, 0.34, 0.13, 13*0./
75257      DATA IZH4/
75258      C HDDV
75259      * 0.83, 0.83, 0.83, 0.83, 0.83, 0.83, 0.83, 0.83, 0.62, 0.62,
75260      * 0.62, 0.62, 0.62, 7*0.,
75261      * 1.17, 1.17, 1.17, 1.17, 1.17, 1.17, 1.17, 1.17, 1.17, 1.17,
75262      * 1.17, 1.17, 1.17, 7*0.,
75263      * 0.92, 0.92, 0.92, 0.92, 0.92, 0.92, 0.92, 0.92, 0.22, 0.22,
75264      * 0.22, 0.22, 0.22, 7*0.,
75265      C MC
75266      H 2.41, 0.53, 0.78, 0.00, 0.00, 0.0, 0.0, 0.0, 0.0, 11*0.,
75267      C 05.03, 02.34, 02.56, 00.00, 0.00, 0.00, 0.0, 0.0, 0.0, 11*0.,
75268      N 0.01, 0.02, 0.02, 0.00, 0.00, 0.00, 0.0, 0.0, 0.0, 11*0./
75269      C
75270      END

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76000      BLOCK DATA
76001      C
76002      C BLOCK DATA Subprogram 06
76003      C
76004      C Common block array subscripts:
76005      C
76006      C CRED12(19,20,5,2,2) - CRED12 ( BY, AGE1ST, ISTRN, ITECH, IP )
76007      C
76008      C Common block dictionary:
76009      C
76010      C   Name   Type           Description
76011      C   -----
76012      C /IMCR12/:
76013      C
76014      C CRED12   R   I/M credit percentages for technologies 1 and 2
76015      C
76016      C Local array subscripts:
76017      C
76018      C R<I><J><K><L>(19,10) - R<I><J><K><L> ( BY, AGE1ST )
76019      C
76020      C where I = 1,2; J = ISTRN; K = ITECH; L = IP
76021      C
76022      C Local array dictionary:
76023      C
76024      C The local arrays are all technology 1 & 2 I/M credit percentages. Their
76025      C names follow the IJKL syntax described for the subscripts. Note that:
76026      C
76027      C R<I><J><K><L>(1,1) EQU to CRED12(1,1,<J>,<K>,<L>), if I=1
76028      C                               CRED12(1,11,<J>,<K>,<L>), if I=2
76029      C
76030      C Notes:
76031      C
76032      C /IMCRED/ was split into /IMCR12/ and /IMCR4P/. IRED was replaced by CRED12
76033      C and assigned to /IMCR12/. ITECH4 was replaced by CRED4P and assigned to
76034      C /IMCR4P/. The sheer length of the data blocks initializing the 2 arrays
76035      C otherwise would exceed the 1000 integral numbered section assigned to this
76036      C subprogram. /IMCR4P/ is now initialized in a separate BLOCK DATA 07. The
76037      C old subsequent BLOCK DATA subprograms (07,08,...) have been renumbered
76038      C up by a 1000 and their BD id upped by 1.
76039      C
76040      C CRED12 and CRED4P are real percentages (F4.3), while their predecessors
76041      C were integer percents (I2).
76042      C
76043      C COMMON /IMCR12/ CRED12(19,20,5,2,2)
76044      C
76045      C DIMENSION
76046      C *R1111(19,10),R2111(19,10),R1211(19,10),R2211(19,10),
76047      C *R1311(19,10),R2311(19,10),R1411(19,10),R2411(19,10),
76048      C *R1511(19,10),R2511(19,10),
76049      C *R1121(19,10),R2121(19,10),R1221(19,10),R2221(19,10),
76050      C *R1321(19,10),R2321(19,10),R1421(19,10),R2421(19,10),
76051      C *R1521(19,10),R2521(19,10),
76052      C *R1112(19,10),R2112(19,10),R1212(19,10),R2212(19,10),
76053      C *R1312(19,10),R2312(19,10),R1412(19,10),R2412(19,10),
76054      C *R1512(19,10),R2512(19,10),
76055      C *R1122(19,10),R2122(19,10),R1222(19,10),R2222(19,10),
76056      C *R1322(19,10),R2322(19,10),R1422(19,10),R2422(19,10),
76057      C *R1522(19,10),R2522(19,10)

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76058 C
 76059 EQUIVALENCE
 76060 * (CRED12 (1,1,1,1,1), R1111 (1,1)), (CRED12 (1,11,1,1,1), R2111 (1,1)),
 76061 * (CRED12 (1,1,2,1,1), R1211 (1,1)), (CRED12 (1,11,2,1,1), R2211 (1,1)),
 76062 * (CRED12 (1,1,3,1,1), R1311 (1,1)), (CRED12 (1,11,3,1,1), R2311 (1,1)),
 76063 * (CRED12 (1,1,4,1,1), R1411 (1,1)), (CRED12 (1,11,4,1,1), R2411 (1,1)),
 76064 * (CRED12 (1,1,5,1,1), R1511 (1,1)), (CRED12 (1,11,5,1,1), R2511 (1,1)),
 76065 * (CRED12 (1,1,1,2,1), R1121 (1,1)), (CRED12 (1,11,1,2,1), R2121 (1,1)),
 76066 * (CRED12 (1,1,2,2,1), R1221 (1,1)), (CRED12 (1,11,2,2,1), R2221 (1,1)),
 76067 * (CRED12 (1,1,3,2,1), R1321 (1,1)), (CRED12 (1,11,3,2,1), R2321 (1,1)),
 76068 * (CRED12 (1,1,4,2,1), R1421 (1,1)), (CRED12 (1,11,4,2,1), R2421 (1,1)),
 76069 * (CRED12 (1,1,5,2,1), R1521 (1,1)), (CRED12 (1,11,5,2,1), R2521 (1,1)),
 76070 * (CRED12 (1,1,1,1,2), R1112 (1,1)), (CRED12 (1,11,1,1,2), R2112 (1,1)),
 76071 * (CRED12 (1,1,2,1,2), R1212 (1,1)), (CRED12 (1,11,2,1,2), R2212 (1,1)),
 76072 * (CRED12 (1,1,3,1,2), R1312 (1,1)), (CRED12 (1,11,3,1,2), R2312 (1,1)),
 76073 * (CRED12 (1,1,4,1,2), R1412 (1,1)), (CRED12 (1,11,4,1,2), R2412 (1,1)),
 76074 * (CRED12 (1,1,5,1,2), R1512 (1,1)), (CRED12 (1,11,5,1,2), R2512 (1,1)),
 76075 * (CRED12 (1,1,1,2,2), R1122 (1,1)), (CRED12 (1,11,1,2,2), R2122 (1,1)),
 76076 * (CRED12 (1,1,2,2,2), R1222 (1,1)), (CRED12 (1,11,2,2,2), R2222 (1,1)),
 76077 * (CRED12 (1,1,3,2,2), R1322 (1,1)), (CRED12 (1,11,3,2,2), R2322 (1,1)),
 76078 * (CRED12 (1,1,4,2,2), R1422 (1,1)), (CRED12 (1,11,4,2,2), R2422 (1,1))
 76079 EQUIVALENCE
 76080 * (CRED12 (1,1,5,2,2), R1522 (1,1)), (CRED12 (1,11,5,2,2), R2522 (1,1))
 76081 C
 76082 C Inspection / maintenance reduction percentages for technologies 1
 76083 C through 2:
 76084 C
 76085 DATA R1111/.028,.055,.050,.059,.066,.072,.077,.083,.089,.095,
 76086 * .104,.115,.128,.141,.156,.171,.185,.199,.213,
 76087 * .064,.049,.058,.065,.071,.075,.080,.087,.092,.102,
 76088 * .114,.126,.140,.154,.169,.183,.197,.210,.085,
 76089 * .065,.052,.061,.066,.070,.076,.080,.086,.092,.105,
 76090 * .120,.133,.147,.161,.175,.189,.202,.189,.082,
 76091 * .066,.055,.065,.066,.069,.076,.080,.086,.096,.109,
 76092 * .122,.134,.148,.162,.176,.191,.199,.179,.079,
 76093 * .068,.062,.069,.070,.071,.076,.084,.094,.104,.117,
 76094 * .129,.140,.153,.166,.180,.173,.185,.169,.075,
 76095 * .070,.067,.074,.073,.071,.076,.089,.100,.112,.125,
 76096 * .137,.148,.160,.172,.152,.160,.172,.157,.072,
 76097 * .072,.072,.078,.074,.075,.083,.095,.105,.118,.131,
 76098 * .143,.153,.165,.144,.141,.147,.158,.145,.068,
 76099 * .073,.077,.082,.078,.083,.092,.102,.112,.124,.135,
 76100 * .146,.158,.143,.134,.130,.136,.146,.134,.065,
 76101 * .074,.081,.089,.087,.093,.100,.109,.119,.130,.142,
 76102 * .153,.145,.134,.125,.120,.125,.134,.124,.061,
 76103 * .075,.088,.100,.097,.102,.109,.117,.127,.138,.149,
 76104 * .149,.137,.125,.116,.110,.114,.122,.114,.057/
 76105 DATA R2111/.078,.098,.112,.107,.111,.118,.125,.135,.145,.153,
 76106 * .141,.130,.117,.107,.102,.104,.109,.104,.054,
 76107 * .083,.109,.123,.118,.119,.125,.133,.143,.156,.145,
 76108 * .133,.121,.110,.099,.094,.094,.099,.097,.052,
 76109 * .088,.120,.135,.129,.127,.133,.141,.159,.148,.137,
 76110 * .125,.113,.102,.092,.086,.085,.093,.094,.051,
 76111 * .092,.131,.148,.140,.138,.143,.164,.152,.140,.129,
 76112 * .117,.106,.095,.085,.078,.080,.090,.090,.049,
 76113 * .097,.143,.160,.151,.148,.168,.157,.144,.133,.121,
 76114 * .109,.098,.088,.079,.075,.079,.087,.086,.047,
 76115 * .101,.154,.174,.161,.174,.162,.150,.138,.126,.114,

Appendix C: MOBILE3 Block Data 06

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76116	*	.103,.092,.083,.075,.074,.077,.083,.082,.045,
76117	*	.105,.165,.187,.181,.168,.156,.144,.132,.119,.108,
76118	*	.096,.087,.081,.076,.074,.075,.079,.076,.043,
76119	*	.109,.175,.187,.173,.160,.148,.136,.124,.112,.101,
76120	*	.090,.084,.081,.076,.073,.072,.075,.071,.041,
76121	*	.112,.192,.180,.166,.153,.140,.128,.117,.104,.095,
76122	*	.088,.085,.081,.075,.071,.069,.070,.067,.038,
76123	*	.195,.182,.168,.155,.142,.130,.118,.106,.096,.089,
76124	*	.086,.082,.077,.072,.069,.068,.066,.049,.017/
76125		DATA R1211/.033,.074,.078,.084,.088,.095,.102,.108,.114,.118,
76126	*	.126,.140,.155,.170,.185,.200,.215,.231,.247,
76127	*	.075,.079,.085,.088,.093,.101,.106,.113,.117,.125,
76128	*	.138,.154,.169,.183,.198,.213,.228,.244,.162,
76129	*	.079,.087,.091,.092,.097,.103,.108,.115,.122,.135,
76130	*	.149,.165,.180,.194,.209,.224,.239,.250,.156,
76131	*	.084,.093,.096,.096,.100,.105,.111,.120,.132,.147,
76132	*	.161,.177,.191,.206,.220,.234,.244,.237,.150,
76133	*	.086,.097,.101,.098,.101,.105,.115,.129,.142,.157,
76134	*	.171,.186,.201,.216,.231,.213,.228,.224,.142,
76135	*	.088,.102,.106,.101,.101,.108,.122,.137,.151,.165,
76136	*	.180,.195,.210,.225,.197,.199,.212,.210,.135,
76137	*	.091,.108,.112,.105,.106,.117,.131,.146,.161,.174,
76138	*	.190,.205,.220,.194,.185,.185,.197,.196,.128,
76139	*	.093,.113,.117,.111,.116,.127,.142,.156,.171,.185,
76140	*	.199,.213,.195,.182,.172,.171,.182,.181,.121,
76141	*	.095,.118,.126,.122,.127,.139,.153,.167,.181,.195,
76142	*	.209,.197,.183,.170,.159,.157,.168,.167,.113,
76143	*	.097,.126,.140,.136,.139,.150,.164,.179,.193,.206,
76144	*	.200,.186,.172,.159,.148,.144,.153,.153,.104/
76145		DATA R2211/.102,.138,.154,.149,.151,.161,.175,.190,.204,.204,
76146	*	.191,.176,.162,.148,.136,.131,.139,.140,.099,
76147	*	.109,.151,.167,.163,.164,.173,.187,.200,.207,.193,
76148	*	.179,.164,.150,.137,.125,.119,.127,.132,.097,
76149	*	.115,.164,.182,.177,.176,.185,.198,.211,.196,.182,
76150	*	.168,.153,.140,.127,.115,.110,.120,.128,.094,
76151	*	.122,.176,.198,.191,.188,.194,.216,.201,.186,.172,
76152	*	.157,.143,.129,.117,.107,.104,.116,.124,.091,
76153	*	.128,.189,.213,.206,.198,.222,.207,.192,.177,.162,
76154	*	.147,.134,.120,.109,.103,.102,.113,.119,.087,
76155	*	.134,.201,.228,.219,.227,.213,.198,.182,.167,.152,
76156	*	.138,.124,.112,.105,.101,.100,.109,.113,.082,
76157	*	.139,.213,.243,.231,.216,.202,.186,.171,.156,.142,
76158	*	.128,.115,.108,.103,.100,.097,.105,.106,.077,
76159	*	.144,.225,.236,.221,.205,.190,.175,.160,.146,.131,
76160	*	.118,.111,.107,.102,.097,.094,.100,.101,.074,
76161	*	.149,.241,.225,.210,.194,.179,.164,.151,.136,.123,
76162	*	.115,.111,.107,.101,.095,.092,.096,.098,.070,
76163	*	.244,.228,.212,.196,.181,.166,.152,.139,.126,.118,
76164	*	.113,.109,.104,.097,.091,.093,.096,.081,.031/
76165		DATA R1311/.037,.087,.095,.099,.103,.109,.114,.119,.124,.129,
76166	*	.136,.150,.166,.181,.197,.212,.227,.241,.257,
76167	*	.083,.096,.099,.102,.106,.112,.117,.123,.128,.135,
76168	*	.148,.164,.179,.195,.210,.227,.241,.256,.225,
76169	*	.088,.103,.103,.105,.108,.114,.118,.125,.133,.145,
76170	*	.160,.175,.191,.207,.223,.239,.255,.296,.217,
76171	*	.094,.110,.109,.109,.112,.116,.121,.131,.143,.158,
76172	*	.172,.188,.204,.220,.235,.250,.287,.281,.208,
76173	*	.099,.116,.116,.113,.114,.118,.126,.142,.156,.170,

76174	*	.186,.201,.217,.232,.247,.268,.270,.265,.199,
76175	*	.103,.120,.121,.116,.117,.124,.138,.154,.169,.184,
76176	*	.199,.214,.229,.245,.255,.252,.253,.249,.190,
76177	*	.106,.124,.125,.119,.122,.135,.150,.165,.181,.196,
76178	*	.210,.225,.241,.250,.241,.235,.236,.233,.180,
76179	*	.109,.128,.129,.125,.132,.146,.162,.177,.192,.207,
76180	*	.221,.236,.253,.238,.227,.220,.219,.216,.170,
76181	*	.111,.133,.138,.138,.145,.158,.173,.189,.204,.219,
76182	*	.234,.249,.233,.217,.207,.200,.201,.198,.155,
76183	*	.114,.141,.154,.152,.158,.170,.185,.200,.216,.231,
76184	*	.250,.234,.218,.201,.190,.183,.184,.180,.142/
76185		DATA R2311/.120,.154,.169,.166,.170,.183,.198,.213,.229,.261,
76186	*	.245,.228,.211,.195,.181,.172,.169,.166,.138,
76187	*	.128,.167,.184,.181,.184,.196,.211,.226,.269,.252,
76188	*	.235,.218,.201,.184,.170,.159,.155,.158,.136,
76189	*	.137,.180,.200,.196,.198,.209,.223,.271,.255,.238,
76190	*	.220,.204,.188,.171,.156,.145,.147,.153,.131,
76191	*	.144,.193,.216,.211,.210,.221,.274,.257,.240,.224,
76192	*	.206,.190,.173,.158,.143,.138,.142,.148,.126,
76193	*	.151,.206,.231,.226,.221,.278,.262,.244,.227,.210,
76194	*	.193,.176,.160,.146,.136,.135,.138,.141,.120,
76195	*	.157,.219,.246,.240,.282,.265,.249,.231,.214,.196,
76196	*	.180,.163,.148,.140,.133,.131,.132,.133,.115,
76197	*	.164,.231,.261,.286,.269,.251,.234,.217,.199,.182,
76198	*	.166,.150,.142,.136,.130,.126,.126,.128,.113,
76199	*	.170,.244,.290,.272,.254,.236,.219,.202,.185,.168,
76200	*	.153,.143,.139,.133,.125,.120,.121,.125,.111,
76201	*	.177,.294,.276,.258,.240,.221,.204,.188,.171,.156,
76202	*	.147,.141,.136,.129,.120,.115,.118,.123,.108,
76203	*	.295,.278,.260,.242,.223,.205,.189,.173,.157,.148,
76204	*	.142,.137,.130,.122,.115,.115,.120,.114,.048/
76205		DATA R1411/.043,.100,.107,.109,.112,.117,.121,.125,.129,.133,
76206	*	.142,.156,.172,.187,.203,.218,.234,.249,.264,
76207	*	.096,.109,.109,.111,.116,.121,.124,.128,.133,.141,
76208	*	.155,.171,.186,.202,.218,.234,.249,.264,.270,
76209	*	.102,.114,.114,.115,.120,.124,.127,.131,.140,.154,
76210	*	.169,.185,.201,.216,.232,.248,.264,.320,.260,
76211	*	.108,.119,.119,.120,.123,.126,.130,.138,.152,.168,
76212	*	.183,.199,.214,.230,.246,.262,.313,.304,.249,
76213	*	.113,.124,.123,.124,.126,.129,.136,.151,.166,.182,
76214	*	.198,.212,.228,.243,.259,.300,.295,.287,.238,
76215	*	.117,.128,.128,.127,.127,.134,.147,.163,.179,.194,
76216	*	.210,.225,.241,.256,.294,.283,.277,.270,.227,
76217	*	.121,.133,.134,.129,.133,.145,.160,.175,.190,.206,
76218	*	.222,.239,.255,.293,.277,.265,.259,.253,.215,
76219	*	.124,.136,.139,.135,.144,.157,.173,.188,.204,.221,
76220	*	.236,.252,.294,.277,.261,.248,.241,.235,.202,
76221	*	.127,.140,.147,.148,.157,.171,.187,.203,.219,.234,
76222	*	.249,.295,.278,.261,.245,.231,.223,.218,.189,
76223	*	.129,.148,.162,.163,.172,.185,.201,.217,.232,.247,
76224	*	.298,.280,.263,.245,.229,.214,.205,.199,.176/
76225		DATA R2411/.135,.161,.178,.179,.186,.199,.215,.231,.246,.299,
76226	*	.282,.264,.247,.230,.213,.197,.188,.182,.167,
76227	*	.144,.176,.193,.194,.200,.212,.229,.244,.303,.284,
76228	*	.266,.248,.231,.213,.196,.180,.172,.171,.161,
76229	*	.152,.190,.210,.208,.213,.226,.241,.305,.288,.268,
76230	*	.250,.232,.214,.197,.179,.165,.163,.165,.155,
76231	*	.161,.204,.227,.224,.227,.238,.307,.289,.272,.253,

76232	*	.233,.216,.199,.181,.165,.157,.158,.158,.149,
76233	*	.168,.217,.244,.238,.241,.309,.291,.273,.255,.237,
76234	*	.218,.200,.183,.166,.156,.152,.152,.151,.141,
76235	*	.176,.230,.259,.254,.312,.294,.276,.257,.239,.221,
76236	*	.202,.184,.168,.157,.152,.147,.145,.143,.136,
76237	*	.183,.242,.275,.316,.298,.279,.260,.241,.223,.205,
76238	*	.187,.170,.160,.153,.147,.141,.137,.138,.135,
76239	*	.190,.254,.319,.301,.282,.263,.244,.225,.207,.189,
76240	*	.172,.162,.155,.148,.141,.134,.132,.138,.135,
76241	*	.197,.322,.303,.285,.266,.247,.228,.209,.191,.173,
76242	*	.163,.158,.150,.143,.135,.130,.130,.138,.135,
76243	*	.323,.304,.286,.267,.248,.229,.210,.192,.174,.164,
76244	*	.159,.152,.143,.135,.130,.129,.135,.137,.061/
76245	DATA R1511/	.050,.114,.118,.118,.120,.123,.127,.131,.134,.137,
76246	*	.144,.157,.173,.188,.203,.219,.234,.249,.264,
76247	*	.111,.120,.119,.120,.123,.126,.131,.134,.137,.144,
76248	*	.157,.172,.188,.203,.219,.234,.249,.264,.305,
76249	*	.113,.124,.122,.123,.125,.128,.134,.137,.145,.158,
76250	*	.172,.187,.203,.218,.234,.250,.265,.344,.294,
76251	*	.119,.128,.125,.125,.127,.131,.136,.145,.158,.173,
76252	*	.187,.203,.219,.235,.250,.264,.334,.327,.281,
76253	*	.123,.131,.130,.128,.130,.134,.143,.157,.173,.188,
76254	*	.203,.219,.235,.250,.266,.325,.315,.309,.269,
76255	*	.127,.134,.135,.131,.134,.142,.155,.171,.188,.203,
76256	*	.218,.233,.249,.265,.323,.307,.297,.292,.255,
76257	*	.130,.137,.139,.136,.141,.155,.170,.186,.202,.218,
76258	*	.233,.248,.264,.323,.306,.289,.279,.274,.242,
76259	*	.133,.141,.144,.144,.154,.169,.185,.201,.217,.233,
76260	*	.249,.264,.324,.307,.288,.271,.261,.256,.227,
76261	*	.136,.145,.153,.159,.169,.184,.199,.215,.232,.247,
76262	*	.263,.325,.307,.289,.270,.252,.242,.237,.212,
76263	*	.138,.152,.168,.174,.184,.199,.214,.230,.246,.262,
76264	*	.326,.308,.289,.271,.252,.233,.223,.218,.196/
76265	DATA R2511/	.143,.165,.185,.190,.199,.214,.229,.244,.260,.328,
76266	*	.308,.290,.271,.252,.233,.214,.204,.199,.185,
76267	*	.153,.179,.202,.206,.214,.228,.243,.259,.332,.313,
76268	*	.294,.275,.256,.237,.217,.199,.187,.188,.179,
76269	*	.162,.193,.218,.220,.229,.243,.257,.334,.316,.297,
76270	*	.278,.258,.239,.220,.201,.184,.177,.182,.172,
76271	*	.170,.206,.235,.237,.243,.257,.335,.316,.298,.279,
76272	*	.259,.240,.221,.201,.183,.173,.171,.173,.164,
76273	*	.179,.219,.252,.254,.260,.336,.317,.298,.279,.260,
76274	*	.240,.221,.202,.183,.172,.165,.162,.164,.155,
76275	*	.186,.232,.269,.270,.337,.318,.299,.280,.260,.241,
76276	*	.222,.203,.184,.173,.165,.158,.153,.155,.151,
76277	*	.193,.244,.284,.338,.320,.300,.280,.261,.242,.222,
76278	*	.204,.185,.174,.166,.158,.151,.144,.150,.153,
76279	*	.200,.256,.341,.323,.305,.284,.263,.244,.224,.205,
76280	*	.187,.175,.167,.159,.151,.143,.141,.151,.155,
76281	*	.206,.346,.327,.308,.289,.269,.248,.227,.208,.190,
76282	*	.178,.170,.161,.152,.144,.141,.144,.152,.158,
76283	*	.347,.329,.310,.290,.271,.250,.229,.209,.191,.180,
76284	*	.172,.163,.154,.145,.142,.144,.149,.156,.072/
76285	DATA R1121/	.023,.075,.102,.123,.144,.165,.183,.202,.221,.241,
76286	*	.259,.278,.296,.313,.329,.344,.357,.371,.383,
76287	*	.067,.097,.119,.139,.160,.179,.197,.215,.234,.252,
76288	*	.270,.289,.305,.321,.336,.350,.363,.376,.124,
76289	*	.074,.101,.123,.143,.162,.180,.197,.214,.230,.246,

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76290	*	.262,.279,.294,.308,.322,.335,.347,.161,.123,
76291	*	.077,.103,.123,.142,.160,.177,.195,.212,.228,.244,
76292	*	.258,.272,.285,.298,.311,.323,.183,.160,.122,
76293	*	.081,.108,.128,.146,.163,.179,.195,.211,.227,.243,
76294	*	.257,.272,.285,.299,.312,.196,.181,.160,.121,
76295	*	.083,.111,.130,.148,.163,.178,.192,.207,.222,.236,
76296	*	.250,.263,.276,.290,.198,.186,.170,.149,.113,
76297	*	.084,.114,.134,.151,.166,.180,.193,.207,.220,.233,
76298	*	.246,.259,.271,.210,.199,.187,.172,.151,.116,
76299	*	.085,.115,.136,.153,.168,.182,.195,.208,.220,.233,
76300	*	.245,.257,.210,.199,.188,.175,.160,.141,.108,
76301	*	.087,.117,.139,.156,.171,.184,.197,.209,.221,.233,
76302	*	.244,.213,.203,.193,.181,.168,.154,.135,.104,
76303	*	.088,.119,.142,.159,.174,.187,.200,.212,.223,.235,
76304	*	.222,.211,.200,.189,.178,.166,.152,.133,.103/
76305		DATA R2121/.089,.122,.145,.162,.177,.190,.203,.214,.226,.234,
76306	*	.223,.211,.199,.188,.176,.164,.150,.131,.102,
76307	*	.091,.125,.148,.165,.179,.192,.204,.214,.245,.235,
76308	*	.224,.212,.200,.188,.176,.164,.149,.129,.101,
76309	*	.094,.130,.155,.172,.186,.199,.210,.260,.249,.237,
76310	*	.225,.213,.201,.188,.175,.162,.147,.127,.099,
76311	*	.102,.139,.165,.184,.199,.211,.277,.264,.251,.239,
76312	*	.226,.213,.199,.186,.173,.158,.143,.125,.099,
76313	*	.099,.137,.164,.182,.197,.292,.280,.267,.254,.241,
76314	*	.228,.215,.200,.186,.171,.157,.142,.123,.098,
76315	*	.107,.147,.174,.192,.314,.302,.288,.275,.261,.247,
76316	*	.232,.218,.203,.187,.171,.156,.140,.121,.096,
76317	*	.108,.149,.176,.328,.316,.304,.292,.279,.265,.251,
76318	*	.235,.219,.201,.184,.168,.152,.134,.116,.092,
76319	*	.109,.151,.356,.343,.330,.316,.302,.287,.271,.255,
76320	*	.239,.223,.206,.189,.170,.153,.134,.114,.090,
76321	*	.110,.383,.370,.356,.342,.327,.311,.293,.276,.259,
76322	*	.242,.224,.207,.191,.172,.153,.133,.111,.085,
76323	*	.390,.377,.362,.348,.333,.317,.300,.282,.265,.247,
76324	*	.229,.211,.195,.178,.159,.139,.117,.092,.030/
76325		DATA R1221/.037,.117,.151,.176,.199,.222,.244,.265,.284,.302,
76326	*	.321,.338,.354,.370,.385,.399,.413,.426,.439,
76327	*	.108,.146,.171,.194,.217,.239,.260,.279,.298,.316,
76328	*	.334,.349,.365,.380,.393,.408,.421,.433,.196,
76329	*	.119,.156,.181,.201,.222,.244,.263,.282,.300,.318,
76330	*	.334,.349,.363,.377,.390,.403,.416,.248,.195,
76331	*	.127,.163,.187,.208,.227,.247,.267,.285,.303,.318,
76332	*	.334,.349,.363,.378,.391,.404,.271,.245,.193,
76333	*	.132,.167,.189,.208,.227,.246,.265,.283,.299,.315,
76334	*	.330,.345,.359,.373,.386,.285,.267,.242,.191,
76335	*	.137,.171,.193,.210,.227,.243,.260,.276,.292,.309,
76336	*	.324,.339,.352,.365,.294,.280,.263,.239,.189,
76337	*	.141,.177,.199,.215,.230,.244,.259,.274,.289,.303,
76338	*	.318,.332,.346,.302,.290,.276,.260,.235,.187,
76339	*	.146,.183,.206,.223,.237,.251,.264,.278,.291,.305,
76340	*	.318,.332,.301,.289,.277,.263,.247,.225,.181,
76341	*	.151,.192,.215,.233,.247,.261,.274,.287,.300,.313,
76342	*	.326,.314,.302,.290,.277,.264,.248,.224,.182,
76343	*	.154,.197,.222,.239,.254,.268,.282,.295,.307,.320,
76344	*	.319,.307,.295,.282,.269,.256,.240,.217,.178/
76345		DATA R2221/.159,.203,.229,.247,.262,.276,.290,.304,.317,.324,
76346	*	.312,.300,.287,.275,.262,.248,.233,.211,.173,
76347	*	.163,.209,.237,.256,.271,.286,.299,.312,.332,.321,

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76348	*	.309,.297,.284,.272,.258,.244,.227,.206,.170,
76349	*	.163,.210,.238,.257,.273,.288,.300,.337,.325,.313,
76350	*	.301,.289,.277,.263,.249,.234,.218,.198,.165,
76351	*	.169,.220,.249,.270,.286,.300,.352,.339,.326,.313,
76352	*	.299,.285,.270,.255,.241,.227,.211,.192,.161,
76353	*	.171,.223,.253,.275,.291,.373,.360,.344,.329,.315,
76354	*	.300,.284,.268,.252,.235,.221,.205,.187,.157,
76355	*	.173,.227,.258,.280,.394,.380,.366,.351,.335,.320,
76356	*	.303,.287,.269,.251,.234,.217,.201,.182,.153,
76357	*	.175,.230,.263,.413,.400,.386,.372,.357,.342,.327,
76358	*	.310,.292,.273,.255,.235,.217,.198,.180,.150,
76359	*	.177,.234,.433,.419,.407,.393,.379,.363,.347,.330,
76360	*	.313,.294,.276,.256,.235,.214,.194,.175,.143,
76361	*	.178,.453,.440,.427,.412,.397,.381,.364,.348,.331,
76362	*	.313,.294,.275,.255,.233,.210,.192,.170,.135,
76363	*	.459,.446,.432,.418,.402,.386,.369,.352,.336,.318,
76364	*	.300,.281,.260,.238,.216,.197,.176,.144,.047/
76365		DATA R1321/.048,.147,.183,.211,.237,.263,.284,.302,.319,.336,
76366	*	.352,.368,.382,.396,.408,.420,.432,.443,.455,
76367	*	.139,.179,.209,.234,.260,.282,.301,.318,.335,.351,
76368	*	.366,.381,.395,.408,.420,.433,.444,.455,.257,
76369	*	.153,.195,.224,.247,.270,.292,.312,.329,.346,.362,
76370	*	.376,.392,.405,.418,.432,.444,.456,.332,.255,
76371	*	.164,.209,.235,.257,.278,.298,.318,.336,.353,.369,
76372	*	.385,.400,.414,.426,.439,.451,.361,.328,.253,
76373	*	.175,.222,.249,.269,.289,.308,.327,.344,.361,.377,
76374	*	.392,.405,.418,.431,.443,.376,.355,.323,.250,
76375	*	.182,.230,.257,.278,.296,.313,.329,.345,.361,.376,
76376	*	.390,.404,.417,.430,.384,.369,.349,.319,.247,
76377	*	.191,.243,.271,.291,.308,.325,.341,.355,.370,.384,
76378	*	.398,.411,.423,.390,.377,.361,.343,.314,.244,
76379	*	.197,.249,.278,.298,.316,.333,.348,.362,.376,.389,
76380	*	.402,.415,.387,.374,.361,.346,.329,.301,.237,
76381	*	.201,.256,.285,.305,.323,.339,.353,.367,.380,.394,
76382	*	.407,.391,.378,.365,.350,.335,.318,.292,.232,
76383	*	.205,.263,.293,.314,.331,.345,.359,.373,.386,.400,
76384	*	.399,.386,.372,.358,.344,.330,.313,.287,.228/
76385		DATA R2321/.210,.269,.301,.322,.338,.352,.366,.380,.393,.407,
76386	*	.394,.382,.368,.354,.340,.324,.309,.281,.224,
76387	*	.214,.275,.307,.327,.343,.358,.371,.384,.419,.406,
76388	*	.392,.379,.365,.351,.335,.319,.301,.274,.220,
76389	*	.219,.283,.316,.337,.353,.368,.380,.431,.418,.405,
76390	*	.391,.377,.363,.347,.330,.312,.293,.268,.216,
76391	*	.227,.296,.331,.352,.368,.383,.441,.429,.417,.403,
76392	*	.388,.373,.357,.340,.323,.306,.286,.262,.211,
76393	*	.230,.300,.337,.358,.375,.448,.436,.423,.409,.394,
76394	*	.379,.362,.345,.329,.312,.293,.274,.249,.202,
76395	*	.233,.305,.343,.366,.466,.453,.439,.424,.409,.393,
76396	*	.376,.359,.341,.323,.304,.284,.265,.240,.196,
76397	*	.235,.310,.348,.476,.462,.448,.434,.419,.403,.387,
76398	*	.370,.352,.332,.313,.292,.272,.251,.227,.186,
76399	*	.238,.313,.482,.469,.455,.440,.427,.412,.397,.382,
76400	*	.365,.347,.328,.308,.285,.265,.242,.218,.177,
76401	*	.240,.482,.470,.457,.444,.429,.416,.401,.386,.369,
76402	*	.353,.336,.318,.299,.275,.254,.232,.207,.169,
76403	*	.482,.469,.457,.444,.430,.416,.401,.386,.369,.353,
76404	*	.337,.320,.301,.279,.257,.235,.211,.178,.059/
76405		DATA R1421/.054,.165,.207,.235,.258,.277,.296,.312,.328,.343,

76406	*	.358,.372,.387,.399,.412,.423,.433,.442,.452,
76407	*	.154,.204,.234,.257,.277,.295,.313,.329,.344,.358,
76408	*	.373,.387,.399,.412,.423,.433,.443,.452,.299,
76409	*	.170,.224,.253,.274,.294,.311,.328,.345,.360,.374,
76410	*	.387,.400,.411,.423,.434,.444,.455,.392,.296,
76411	*	.185,.239,.269,.290,.308,.325,.342,.357,.371,.385,
76412	*	.398,.411,.422,.433,.444,.455,.425,.385,.293,
76413	*	.197,.254,.284,.305,.323,.339,.355,.369,.383,.396,
76414	*	.409,.421,.433,.445,.456,.445,.420,.379,.289,
76415	*	.208,.268,.297,.317,.334,.350,.366,.381,.395,.408,
76416	*	.420,.432,.444,.455,.454,.436,.414,.373,.285,
76417	*	.217,.280,.310,.330,.347,.363,.378,.392,.406,.419,
76418	*	.432,.444,.456,.461,.447,.429,.407,.366,.282,
76419	*	.227,.291,.322,.343,.360,.376,.390,.404,.417,.430,
76420	*	.443,.454,.468,.454,.439,.422,.400,.359,.278,
76421	*	.234,.301,.333,.355,.372,.388,.402,.416,.429,.441,
76422	*	.453,.469,.456,.441,.425,.408,.386,.349,.271,
76423	*	.241,.311,.344,.367,.384,.399,.414,.427,.439,.451,
76424	*	.474,.460,.446,.430,.415,.398,.377,.340,.265/
76425		DATA R2421/.250,.321,.356,.378,.396,.411,.425,.437,.449,.475,
76426	*	.462,.448,.433,.418,.402,.384,.363,.329,.257,
76427	*	.256,.330,.366,.388,.405,.420,.433,.446,.480,.467,
76428	*	.453,.439,.425,.410,.393,.375,.352,.319,.250,
76429	*	.264,.340,.377,.401,.418,.433,.445,.484,.471,.456,
76430	*	.442,.428,.414,.398,.382,.363,.341,.309,.242,
76431	*	.268,.347,.385,.409,.425,.440,.483,.470,.456,.443,
76432	*	.429,.414,.400,.384,.368,.349,.328,.297,.233,
76433	*	.271,.354,.393,.416,.432,.482,.469,.456,.443,.429,
76434	*	.415,.400,.385,.369,.352,.335,.314,.285,.224,
76435	*	.275,.360,.399,.423,.481,.470,.457,.442,.429,.415,
76436	*	.401,.386,.371,.354,.338,.321,.301,.274,.215,
76437	*	.279,.365,.406,.478,.466,.454,.441,.428,.415,.401,
76438	*	.387,.372,.358,.342,.326,.309,.289,.261,.205,
76439	*	.282,.371,.473,.462,.450,.438,.426,.414,.402,.388,
76440	*	.374,.360,.345,.330,.313,.295,.276,.249,.194,
76441	*	.284,.467,.457,.446,.435,.424,.412,.400,.387,.374,
76442	*	.361,.346,.331,.316,.300,.283,.263,.236,.186,
76443	*	.466,.456,.445,.434,.423,.411,.400,.387,.374,.360,
76444	*	.346,.331,.317,.301,.285,.266,.241,.201,.066/
76445		DATA R1521/.058,.177,.218,.244,.265,.283,.300,.317,.334,.348,
76446	*	.362,.374,.386,.396,.406,.418,.429,.439,.449,
76447	*	.167,.216,.244,.265,.282,.300,.317,.333,.347,.361,
76448	*	.374,.386,.396,.407,.418,.429,.440,.449,.325,
76449	*	.185,.235,.262,.282,.298,.315,.332,.346,.360,.373,
76450	*	.385,.397,.409,.420,.431,.441,.451,.416,.321,
76451	*	.201,.250,.276,.296,.314,.330,.346,.361,.374,.387,
76452	*	.398,.410,.421,.431,.441,.450,.450,.409,.316,
76453	*	.216,.266,.293,.312,.330,.346,.361,.374,.387,.399,
76454	*	.410,.421,.431,.440,.450,.465,.440,.402,.311,
76455	*	.229,.282,.308,.328,.345,.360,.374,.387,.400,.412,
76456	*	.422,.432,.442,.451,.473,.455,.431,.394,.307,
76457	*	.241,.297,.323,.341,.358,.372,.386,.400,.411,.423,
76458	*	.432,.442,.452,.475,.461,.444,.421,.386,.301,
76459	*	.251,.311,.337,.356,.372,.386,.399,.412,.423,.433,
76460	*	.443,.452,.476,.463,.448,.432,.411,.376,.296,
76461	*	.259,.323,.350,.369,.385,.399,.411,.423,.433,.443,
76462	*	.453,.476,.463,.450,.437,.421,.400,.366,.289,
76463	*	.267,.334,.364,.384,.398,.411,.423,.433,.444,.454,

76464	*	.473,.461,.449,.437,.423,.408,.389,.355,.283/
76465		DATA R2521/.274,.344,.375,.395,.410,.422,.433,.443,.454,.471,
76466	*	.460,.449,.437,.425,.411,.397,.377,.344,.276,
76467	*	.280,.353,.386,.405,.419,.431,.442,.453,.468,.458,
76468	*	.447,.436,.425,.413,.399,.383,.363,.334,.268,
76469	*	.287,.363,.397,.416,.430,.443,.454,.466,.456,.445,
76470	*	.434,.423,.412,.399,.386,.369,.349,.323,.261,
76471	*	.293,.372,.407,.426,.440,.453,.463,.453,.444,.434,
76472	*	.423,.411,.399,.386,.371,.355,.337,.310,.253,
76473	*	.299,.381,.415,.435,.451,.462,.453,.444,.433,.422,
76474	*	.412,.399,.386,.372,.357,.341,.324,.298,.243,
76475	*	.303,.389,.424,.444,.461,.452,.443,.434,.423,.412,
76476	*	.400,.388,.374,.359,.345,.330,.312,.286,.233,
76477	*	.308,.397,.433,.461,.452,.442,.433,.423,.411,.400,
76478	*	.388,.375,.362,.347,.333,.318,.300,.275,.223,
76479	*	.313,.403,.461,.453,.443,.433,.423,.412,.400,.389,
76480	*	.376,.363,.349,.335,.320,.306,.289,.266,.215,
76481	*	.317,.460,.452,.442,.433,.423,.412,.400,.388,.376,
76482	*	.364,.351,.339,.325,.311,.297,.282,.259,.209,
76483	*	.460,.451,.442,.433,.423,.412,.400,.388,.376,.364,
76484	*	.351,.340,.326,.313,.299,.284,.264,.224,.074/
76485		DATA R1112/.013,.065,.132,.183,.222,.256,.287,.315,.342,.369,
76486	*	.393,.414,.434,.453,.472,.490,.506,.521,.535,
76487	*	.045,.121,.177,.219,.254,.284,.312,.340,.366,.390,
76488	*	.412,.432,.451,.470,.487,.504,.518,.532,.123,
76489	*	.046,.134,.196,.240,.273,.302,.328,.354,.378,.401,
76490	*	.422,.442,.460,.477,.493,.508,.522,.371,.122,
76491	*	.044,.142,.211,.255,.288,.316,.341,.364,.386,.407,
76492	*	.427,.445,.462,.479,.493,.508,.487,.367,.120,
76493	*	.048,.156,.230,.275,.307,.334,.358,.379,.399,.418,
76494	*	.436,.453,.469,.484,.499,.521,.478,.361,.119,
76495	*	.050,.169,.248,.294,.324,.349,.372,.393,.412,.430,
76496	*	.447,.463,.478,.492,.527,.512,.470,.354,.118,
76497	*	.053,.182,.266,.311,.341,.365,.386,.405,.424,.441,
76498	*	.457,.472,.486,.529,.518,.502,.460,.346,.116,
76499	*	.055,.194,.282,.327,.356,.379,.399,.418,.435,.450,
76500	*	.465,.480,.530,.519,.509,.493,.451,.339,.115,
76501	*	.057,.204,.296,.341,.371,.392,.411,.428,.444,.459,
76502	*	.474,.534,.522,.510,.498,.484,.442,.331,.113,
76503	*	.059,.215,.311,.356,.385,.405,.423,.440,.455,.470,
76504	*	.537,.524,.510,.498,.487,.472,.431,.323,.111/
76505		DATA R2112/.060,.224,.324,.370,.398,.418,.435,.451,.466,.543,
76506	*	.529,.516,.501,.488,.476,.460,.418,.314,.109,
76507	*	.061,.233,.336,.382,.409,.429,.446,.461,.550,.536,
76508	*	.522,.506,.491,.478,.466,.448,.406,.304,.106,
76509	*	.063,.242,.347,.393,.420,.440,.456,.556,.543,.529,
76510	*	.514,.498,.482,.467,.453,.434,.393,.293,.104,
76511	*	.064,.252,.359,.405,.432,.451,.561,.548,.535,.521,
76512	*	.506,.489,.472,.455,.439,.419,.379,.283,.100,
76513	*	.065,.260,.370,.416,.443,.567,.555,.541,.527,.512,
76514	*	.495,.477,.459,.441,.423,.403,.364,.272,.096,
76515	*	.067,.269,.381,.427,.577,.564,.551,.536,.521,.506,
76516	*	.489,.469,.448,.427,.408,.387,.348,.259,.093,
76517	*	.068,.276,.392,.586,.574,.560,.547,.531,.515,.497,
76518	*	.480,.459,.437,.414,.392,.368,.329,.245,.090,
76519	*	.069,.283,.594,.581,.568,.554,.540,.524,.507,.489,
76520	*	.469,.447,.424,.399,.374,.349,.308,.228,.086,
76521	*	.070,.599,.587,.574,.560,.546,.530,.514,.496,.478,

76522	*	.457,.434,.409,.382,.356,.327,.286,.210,.080,
76523	*	.601,.588,.575,.562,.547,.532,.515,.498,.480,.459,
76524	*	.437,.412,.385,.358,.329,.292,.226,.115,.023/
76525		DATA R1212/.025,.109,.189,.242,.280,.312,.342,.371,.399,.424,
76526	*	.446,.466,.486,.504,.520,.535,.549,.562,.574,
76527	*	.084,.179,.238,.278,.309,.340,.369,.397,.423,.444,
76528	*	.465,.485,.502,.518,.533,.548,.560,.573,.250,
76529	*	.089,.199,.264,.303,.332,.361,.388,.415,.439,.459,
76530	*	.479,.497,.513,.527,.542,.555,.567,.493,.248,
76531	*	.093,.219,.289,.327,.355,.380,.406,.431,.452,.471,
76532	*	.490,.507,.523,.536,.549,.562,.579,.488,.246,
76533	*	.096,.237,.313,.350,.374,.396,.420,.443,.462,.481,
76534	*	.498,.515,.530,.543,.556,.597,.571,.481,.241,
76535	*	.096,.252,.333,.367,.387,.407,.429,.451,.470,.487,
76536	*	.503,.519,.534,.547,.600,.588,.563,.475,.239,
76537	*	.100,.273,.358,.390,.407,.423,.442,.462,.481,.498,
76538	*	.513,.528,.542,.601,.590,.579,.554,.467,.236,
76539	*	.103,.288,.377,.409,.424,.439,.456,.474,.492,.508,
76540	*	.523,.536,.602,.591,.580,.569,.544,.459,.233,
76541	*	.106,.302,.396,.427,.440,.454,.470,.486,.502,.517,
76542	*	.532,.603,.592,.580,.569,.558,.534,.450,.227,
76543	*	.109,.314,.412,.442,.455,.468,.483,.498,.513,.526,
76544	*	.605,.594,.582,.569,.558,.546,.523,.441,.222/
76545		DATA R2212/.111,.327,.427,.457,.469,.481,.494,.508,.522,.609,
76546	*	.597,.585,.572,.558,.545,.533,.511,.431,.218,
76547	*	.113,.337,.440,.471,.482,.493,.506,.518,.610,.599,
76548	*	.587,.574,.561,.547,.534,.521,.498,.420,.214,
76549	*	.115,.347,.453,.484,.495,.505,.517,.614,.602,.591,
76550	*	.578,.565,.551,.536,.522,.508,.484,.409,.210,
76551	*	.117,.356,.465,.496,.506,.515,.619,.607,.595,.583,
76552	*	.569,.555,.540,.525,.509,.493,.470,.398,.205,
76553	*	.119,.366,.476,.507,.517,.624,.613,.601,.589,.575,
76554	*	.560,.544,.528,.511,.494,.476,.453,.382,.197,
76555	*	.121,.375,.487,.517,.628,.617,.605,.592,.579,.565,
76556	*	.549,.532,.515,.495,.477,.459,.435,.365,.189,
76557	*	.123,.383,.497,.630,.619,.608,.595,.581,.568,.553,
76558	*	.536,.518,.500,.479,.460,.441,.416,.346,.179,
76559	*	.124,.390,.633,.621,.609,.597,.584,.571,.556,.540,
76560	*	.523,.506,.486,.464,.443,.422,.395,.327,.168,
76561	*	.125,.635,.624,.612,.600,.588,.576,.563,.548,.532,
76562	*	.514,.496,.473,.448,.424,.401,.371,.306,.157,
76563	*	.635,.624,.613,.601,.589,.577,.565,.550,.535,.517,
76564	*	.498,.476,.451,.426,.401,.373,.318,.197,.046/
76565		DATA R1312/.035,.143,.222,.271,.307,.339,.369,.397,.423,.447,
76566	*	.467,.487,.505,.522,.538,.552,.565,.575,.586,
76567	*	.119,.215,.268,.305,.337,.367,.395,.421,.445,.466,
76568	*	.485,.504,.520,.536,.550,.564,.575,.586,.341,
76569	*	.126,.241,.298,.333,.361,.389,.415,.439,.461,.481,
76570	*	.499,.515,.530,.545,.559,.572,.583,.555,.337,
76571	*	.131,.265,.328,.361,.386,.410,.433,.455,.475,.493,
76572	*	.511,.527,.542,.555,.568,.580,.622,.549,.334,
76573	*	.137,.287,.355,.386,.407,.428,.449,.470,.489,.506,
76574	*	.523,.537,.551,.564,.575,.641,.614,.542,.330,
76575	*	.142,.307,.379,.408,.427,.446,.465,.485,.502,.519,
76576	*	.534,.547,.560,.573,.643,.632,.605,.536,.326,
76577	*	.145,.322,.398,.427,.444,.462,.480,.498,.514,.529,
76578	*	.543,.556,.568,.643,.635,.623,.596,.528,.322,
76579	*	.146,.335,.415,.443,.458,.474,.491,.508,.524,.538,

76580	*	.552,.564,.644,.635,.626,.613,.586,.519,.318,
76581	*	.150,.350,.433,.460,.473,.487,.502,.519,.534,.548,
76582	*	.561,.640,.629,.620,.612,.600,.575,.506,.305,
76583	*	.153,.364,.450,.477,.488,.500,.513,.528,.543,.556,
76584	*	.642,.631,.621,.610,.600,.588,.563,.496,.297/
76585		DATA R2312/.157,.377,.466,.492,.502,.513,.525,.539,.552,.647,
76586	*	.637,.626,.615,.603,.592,.578,.553,.489,.298,
76587	*	.160,.388,.479,.505,.515,.525,.537,.550,.650,.640,
76588	*	.629,.618,.605,.593,.580,.565,.541,.479,.293,
76589	*	.164,.400,.493,.518,.527,.536,.547,.650,.640,.630,
76590	*	.619,.607,.594,.581,.567,.551,.527,.467,.286,
76591	*	.166,.409,.504,.530,.538,.547,.651,.640,.630,.620,
76592	*	.608,.596,.582,.568,.553,.538,.513,.454,.278,
76593	*	.168,.418,.515,.541,.549,.652,.643,.633,.622,.610,
76594	*	.598,.584,.571,.555,.539,.523,.497,.438,.268,
76595	*	.170,.427,.525,.551,.653,.644,.633,.622,.611,.599,
76596	*	.586,.572,.557,.542,.524,.506,.480,.422,.259,
76597	*	.173,.435,.535,.653,.643,.633,.623,.611,.599,.586,
76598	*	.572,.558,.543,.526,.508,.488,.462,.405,.249,
76599	*	.175,.444,.652,.642,.632,.622,.611,.599,.586,.573,
76600	*	.559,.544,.528,.510,.489,.468,.442,.386,.237,
76601	*	.178,.651,.642,.632,.621,.610,.598,.586,.573,.559,
76602	*	.545,.529,.512,.492,.469,.445,.419,.367,.227,
76603	*	.651,.641,.631,.621,.610,.598,.586,.573,.559,.545,
76604	*	.529,.512,.492,.469,.445,.419,.376,.265,.067/
76605		DATA R1412/.044,.175,.252,.295,.327,.357,.384,.408,.431,.452,
76606	*	.474,.493,.511,.527,.542,.556,.569,.582,.593,
76607	*	.151,.245,.294,.326,.357,.384,.408,.431,.452,.473,
76608	*	.493,.511,.527,.542,.556,.569,.582,.593,.396,
76609	*	.160,.269,.322,.355,.384,.409,.431,.452,.473,.492,
76610	*	.510,.526,.541,.555,.568,.581,.592,.578,.392,
76611	*	.169,.293,.351,.383,.408,.430,.451,.471,.490,.508,
76612	*	.525,.540,.554,.567,.579,.591,.631,.571,.388,
76613	*	.177,.314,.375,.407,.429,.450,.469,.489,.507,.524,
76614	*	.539,.553,.566,.577,.589,.646,.623,.564,.384,
76615	*	.181,.333,.398,.429,.448,.467,.485,.503,.520,.535,
76616	*	.549,.562,.574,.585,.650,.637,.615,.556,.379,
76617	*	.186,.352,.420,.448,.465,.482,.499,.515,.530,.544,
76618	*	.558,.571,.583,.651,.640,.628,.605,.548,.374,
76619	*	.191,.370,.441,.466,.480,.496,.512,.528,.542,.556,
76620	*	.569,.581,.651,.641,.631,.618,.596,.540,.368,
76621	*	.196,.386,.459,.483,.496,.510,.525,.540,.554,.567,
76622	*	.579,.650,.641,.632,.621,.607,.585,.530,.362,
76623	*	.201,.401,.477,.499,.511,.524,.538,.551,.564,.576,
76624	*	.650,.641,.632,.621,.610,.595,.574,.519,.356/
76625		DATA R2412/.205,.415,.492,.514,.525,.537,.550,.562,.574,.650,
76626	*	.641,.631,.621,.610,.598,.583,.562,.508,.349,
76627	*	.209,.429,.506,.528,.538,.548,.560,.572,.649,.640,
76628	*	.630,.620,.610,.598,.585,.570,.550,.496,.341,
76629	*	.213,.442,.520,.541,.549,.559,.570,.648,.638,.629,
76630	*	.619,.609,.597,.585,.573,.557,.536,.484,.332,
76631	*	.216,.454,.533,.553,.561,.570,.646,.637,.628,.618,
76632	*	.607,.596,.585,.572,.559,.543,.522,.471,.323,
76633	*	.219,.465,.545,.564,.572,.646,.637,.627,.617,.607,
76634	*	.596,.585,.573,.559,.545,.528,.506,.456,.312,
76635	*	.223,.475,.556,.574,.645,.636,.626,.617,.607,.596,
76636	*	.585,.573,.560,.545,.529,.512,.488,.439,.301,
76637	*	.226,.483,.565,.644,.635,.626,.617,.607,.596,.585,

76638	*	.572,.559,.545,.529,.513,.495,.470,.423,.290,
76639	*	.228,.491,.643,.635,.626,.616,.606,.595,.584,.572,
76640	*	.559,.544,.529,.513,.496,.477,.451,.405,.279,
76641	*	.231,.641,.633,.625,.615,.605,.594,.583,.571,.558,
76642	*	.544,.529,.512,.496,.478,.457,.431,.386,.266,
76643	*	.641,.633,.624,.614,.604,.594,.582,.571,.558,.544,
76644	*	.529,.513,.496,.478,.458,.432,.393,.297,.078/
76645		DATA R1512/.052,.196,.265,.303,.332,.359,.385,.410,.432,.452,
76646	*	.471,.490,.507,.523,.538,.552,.565,.577,.588,
76647	*	.176,.260,.303,.332,.359,.385,.410,.433,.453,.472,
76648	*	.490,.507,.524,.539,.552,.565,.577,.588,.427,
76649	*	.188,.285,.330,.359,.384,.409,.433,.455,.475,.493,
76650	*	.509,.525,.540,.553,.566,.579,.590,.587,.422,
76651	*	.198,.310,.358,.386,.410,.432,.454,.475,.494,.511,
76652	*	.526,.540,.554,.568,.580,.591,.625,.580,.417,
76653	*	.207,.332,.385,.411,.432,.453,.474,.493,.511,.528,
76654	*	.543,.556,.569,.581,.591,.636,.618,.573,.412,
76655	*	.215,.353,.409,.435,.454,.474,.492,.510,.528,.542,
76656	*	.557,.569,.581,.592,.639,.627,.610,.565,.406,
76657	*	.221,.374,.432,.457,.476,.493,.510,.526,.542,.556,
76658	*	.569,.581,.593,.640,.630,.619,.601,.558,.400,
76659	*	.228,.395,.455,.477,.494,.510,.526,.541,.556,.569,
76660	*	.581,.592,.639,.630,.621,.609,.591,.549,.393,
76661	*	.236,.413,.475,.497,.511,.526,.540,.555,.568,.580,
76662	*	.592,.638,.630,.621,.611,.599,.581,.539,.386,
76663	*	.242,.429,.492,.514,.527,.541,.554,.567,.579,.591,
76664	*	.638,.629,.620,.611,.600,.587,.570,.528,.377/
76665		DATA R2512/.248,.445,.509,.530,.542,.555,.567,.579,.590,.637,
76666	*	.629,.620,.610,.600,.589,.576,.558,.518,.368,
76667	*	.254,.459,.524,.545,.556,.567,.578,.589,.632,.624,
76668	*	.615,.606,.596,.586,.575,.562,.545,.504,.360,
76669	*	.259,.471,.538,.557,.567,.578,.587,.630,.622,.613,
76670	*	.604,.595,.585,.574,.562,.549,.531,.491,.351,
76671	*	.264,.483,.551,.570,.578,.587,.628,.621,.612,.604,
76672	*	.595,.585,.574,.562,.550,.536,.517,.478,.341,
76673	*	.268,.494,.563,.581,.589,.628,.620,.612,.603,.594,
76674	*	.584,.574,.562,.550,.536,.521,.501,.463,.331,
76675	*	.272,.504,.574,.593,.627,.619,.611,.603,.593,.583,
76676	*	.573,.561,.549,.536,.522,.506,.485,.447,.320,
76677	*	.276,.513,.584,.626,.619,.610,.601,.592,.582,.571,
76678	*	.560,.548,.535,.521,.506,.490,.468,.430,.308,
76679	*	.280,.522,.624,.617,.609,.599,.589,.579,.569,.557,
76680	*	.546,.533,.520,.505,.490,.472,.449,.411,.296,
76681	*	.283,.621,.613,.606,.597,.587,.577,.566,.556,.543,
76682	*	.530,.517,.503,.488,.473,.454,.430,.390,.282,
76683	*	.620,.612,.604,.596,.587,.577,.566,.555,.543,.530,
76684	*	.516,.503,.488,.472,.454,.431,.396,.309,.083/
76685		DATA R1122/.030,.117,.173,.215,.247,.275,.301,.322,.342,.361,
76686	*	.378,.395,.410,.424,.437,.450,.462,.473,.484,
76687	*	.101,.160,.205,.240,.267,.293,.315,.335,.354,.371,
76688	*	.388,.403,.417,.430,.443,.455,.467,.477,.161,
76689	*	.102,.158,.201,.235,.262,.285,.306,.326,.343,.359,
76690	*	.374,.389,.402,.415,.427,.439,.450,.224,.160,
76691	*	.097,.151,.191,.222,.248,.271,.291,.310,.327,.344,
76692	*	.360,.374,.387,.399,.411,.422,.266,.224,.160,
76693	*	.098,.152,.190,.222,.248,.270,.289,.306,.323,.338,
76694	*	.353,.368,.381,.393,.406,.296,.265,.225,.159,
76695	*	.095,.147,.185,.217,.242,.264,.283,.302,.318,.333,

76696	*	.347,.361,.374,.386,.309,.284,.253,.212,.148,
76697	*	.093,.145,.184,.214,.240,.261,.282,.299,.315,.330,
76698	*	.344,.357,.369,.335,.314,.290,.260,.219,.154,
76699	*	.091,.144,.182,.213,.237,.259,.279,.296,.311,.326,
76700	*	.339,.352,.341,.322,.300,.274,.244,.205,.144,
76701	*	.091,.144,.182,.212,.237,.258,.277,.294,.309,.324,
76702	*	.337,.351,.334,.316,.295,.270,.239,.199,.139,
76703	*	.090,.142,.182,.213,.237,.258,.276,.293,.308,.321,
76704	*	.368,.352,.335,.316,.295,.272,.242,.199,.139/
76705	DATA R2122/	.090,.142,.182,.212,.236,.256,.273,.290,.304,.390,
76706	*	.374,.358,.339,.320,.298,.274,.242,.200,.138,
76707	*	.089,.143,.182,.211,.233,.252,.269,.284,.409,.396,
76708	*	.381,.364,.345,.326,.302,.277,.244,.201,.139,
76709	*	.092,.146,.186,.214,.238,.257,.274,.434,.419,.404,
76710	*	.387,.369,.350,.329,.306,.278,.244,.200,.138,
76711	*	.100,.155,.196,.227,.252,.270,.459,.444,.428,.410,
76712	*	.392,.373,.352,.330,.307,.279,.245,.201,.140,
76713	*	.095,.150,.192,.220,.243,.479,.466,.451,.435,.418,
76714	*	.401,.382,.360,.336,.310,.281,.247,.203,.141,
76715	*	.103,.158,.200,.230,.503,.489,.473,.458,.441,.423,
76716	*	.405,.386,.365,.341,.313,.283,.248,.204,.143,
76717	*	.103,.159,.200,.520,.507,.493,.478,.463,.446,.429,
76718	*	.409,.387,.363,.338,.312,.280,.243,.199,.140,
76719	*	.104,.160,.547,.534,.521,.508,.493,.476,.459,.441,
76720	*	.422,.401,.377,.352,.322,.289,.252,.203,.143,
76721	*	.104,.572,.561,.547,.534,.520,.504,.488,.470,.452,
76722	*	.433,.412,.389,.364,.334,.299,.256,.204,.137,
76723	*	.578,.567,.554,.540,.527,.511,.495,.477,.459,.441,
76724	*	.420,.397,.374,.345,.311,.269,.218,.154,.041/
76725	DATA R1222/	.051,.192,.262,.303,.330,.353,.372,.391,.408,.423,
76726	*	.437,.450,.462,.474,.485,.495,.505,.515,.525,
76727	*	.168,.250,.295,.324,.348,.368,.386,.403,.418,.433,
76728	*	.446,.458,.470,.481,.492,.502,.512,.521,.279,
76729	*	.170,.251,.298,.328,.351,.371,.388,.403,.418,.432,
76730	*	.445,.456,.468,.478,.489,.499,.509,.356,.278,
76731	*	.171,.252,.299,.330,.354,.374,.390,.405,.420,.433,
76732	*	.445,.456,.467,.477,.488,.498,.400,.354,.276,
76733	*	.169,.247,.291,.321,.344,.365,.384,.400,.415,.428,
76734	*	.440,.452,.463,.474,.484,.431,.397,.353,.275,
76735	*	.169,.241,.284,.315,.338,.357,.373,.390,.406,.419,
76736	*	.431,.443,.454,.465,.454,.428,.395,.352,.273,
76737	*	.170,.239,.282,.313,.336,.354,.370,.384,.398,.410,
76738	*	.422,.434,.445,.471,.451,.426,.395,.350,.271,
76739	*	.171,.241,.283,.314,.337,.355,.371,.385,.398,.411,
76740	*	.422,.433,.477,.459,.437,.411,.380,.337,.263,
76741	*	.172,.244,.289,.320,.342,.359,.375,.389,.402,.414,
76742	*	.425,.495,.480,.461,.441,.417,.386,.342,.268,
76743	*	.171,.244,.290,.319,.341,.358,.373,.387,.400,.413,
76744	*	.504,.489,.471,.453,.432,.409,.379,.334,.262/
76745	DATA R2222/	.173,.247,.293,.321,.343,.362,.378,.392,.406,.512,
76746	*	.497,.482,.465,.447,.427,.404,.373,.331,.257,
76747	*	.176,.252,.298,.328,.350,.369,.385,.399,.523,.510,
76748	*	.497,.482,.466,.448,.428,.403,.373,.331,.257,
76749	*	.173,.247,.290,.321,.345,.364,.381,.529,.517,.503,
76750	*	.489,.475,.459,.441,.419,.395,.364,.323,.251,
76751	*	.176,.254,.302,.333,.357,.375,.542,.530,.518,.504,
76752	*	.489,.474,.456,.437,.416,.392,.362,.319,.248,
76753	*	.176,.254,.300,.333,.357,.560,.548,.535,.522,.508,

Appendix C: MOBILE3 Block Data 06

June 7, 1984

76754	*	.492,.476,.459,.440,.418,.394,.362,.318,.246,
76755	*	.177,.254,.300,.334,.582,.570,.558,.544,.530,.515,
76756	*	.498,.482,.464,.444,.422,.397,.365,.319,.245,
76757	*	.178,.255,.302,.600,.589,.578,.565,.553,.540,.525,
76758	*	.509,.490,.472,.451,.428,.401,.369,.325,.245,
76759	*	.178,.257,.620,.609,.599,.587,.575,.561,.547,.531,
76760	*	.514,.497,.479,.458,.434,.406,.373,.326,.240,
76761	*	.179,.638,.628,.617,.605,.592,.578,.563,.549,.533,
76762	*	.516,.498,.479,.458,.434,.408,.376,.327,.235,
76763	*	.643,.633,.622,.610,.596,.582,.567,.553,.538,.521,
76764	*	.503,.483,.463,.440,.415,.386,.342,.261,.071/
76765		DATA R1322/.066,.242,.313,.354,.380,.400,.417,.431,.445,.458,
76766	*	.469,.480,.490,.500,.509,.518,.527,.536,.544,
76767	*	.217,.300,.346,.375,.396,.414,.429,.443,.456,.467,
76768	*	.479,.489,.499,.508,.517,.526,.535,.543,.354,
76769	*	.212,.300,.346,.376,.399,.416,.432,.446,.459,.471,
76770	*	.481,.492,.501,.511,.520,.529,.538,.465,.353,
76771	*	.209,.300,.349,.378,.400,.418,.433,.448,.460,.472,
76772	*	.483,.493,.503,.513,.522,.532,.514,.464,.353,
76773	*	.212,.306,.356,.385,.407,.425,.440,.454,.466,.479,
76774	*	.490,.500,.510,.519,.529,.542,.512,.461,.351,
76775	*	.213,.307,.357,.388,.410,.427,.442,.455,.467,.479,
76776	*	.489,.500,.509,.519,.558,.538,.508,.458,.349,
76777	*	.217,.314,.366,.396,.418,.434,.449,.462,.474,.485,
76778	*	.496,.506,.515,.571,.555,.534,.505,.456,.347,
76779	*	.217,.316,.368,.399,.421,.438,.452,.465,.476,.487,
76780	*	.497,.507,.569,.556,.540,.519,.492,.443,.339,
76781	*	.216,.317,.370,.401,.424,.441,.455,.467,.478,.489,
76782	*	.500,.576,.564,.549,.532,.511,.483,.435,.335,
76783	*	.217,.319,.372,.405,.429,.447,.460,.473,.484,.494,
76784	*	.586,.574,.561,.546,.529,.510,.480,.432,.332/
76785		DATA R2322/.217,.319,.373,.409,.432,.450,.463,.476,.487,.595,
76786	*	.583,.572,.560,.544,.528,.508,.480,.430,.329,
76787	*	.218,.318,.376,.411,.435,.453,.467,.479,.606,.595,
76788	*	.584,.572,.559,.544,.528,.506,.476,.427,.325,
76789	*	.220,.324,.382,.418,.442,.460,.474,.618,.608,.596,
76790	*	.585,.572,.558,.542,.523,.501,.472,.426,.324,
76791	*	.226,.333,.391,.427,.453,.471,.630,.620,.609,.597,
76792	*	.584,.570,.554,.537,.518,.496,.467,.422,.322,
76793	*	.226,.334,.394,.431,.457,.635,.626,.615,.603,.589,
76794	*	.576,.560,.544,.528,.509,.486,.458,.413,.313,
76795	*	.227,.337,.398,.436,.646,.636,.625,.613,.601,.589,
76796	*	.574,.559,.544,.526,.506,.482,.454,.409,.311,
76797	*	.229,.339,.401,.651,.641,.629,.618,.606,.593,.581,
76798	*	.567,.552,.536,.518,.497,.473,.445,.399,.303,
76799	*	.228,.339,.654,.644,.633,.621,.610,.599,.586,.573,
76800	*	.560,.545,.530,.513,.493,.471,.441,.396,.300,
76801	*	.228,.649,.639,.629,.619,.607,.596,.585,.572,.559,
76802	*	.547,.534,.520,.504,.486,.465,.436,.391,.297,
76803	*	.647,.637,.627,.617,.606,.595,.584,.571,.558,.546,
76804	*	.534,.521,.505,.488,.468,.442,.402,.324,.090/
76805		DATA R1422/.081,.293,.365,.400,.421,.437,.451,.463,.474,.484,
76806	*	.494,.505,.514,.522,.530,.537,.544,.550,.556,
76807	*	.267,.355,.395,.418,.435,.449,.461,.473,.483,.494,
76808	*	.503,.513,.521,.529,.536,.543,.549,.555,.387,
76809	*	.264,.357,.400,.423,.441,.454,.466,.479,.489,.499,
76810	*	.508,.517,.524,.532,.539,.546,.553,.524,.385,
76811	*	.258,.355,.402,.427,.445,.459,.471,.482,.493,.502,

76812	*	.512,.520,.528,.535,.543,.551,.580,.518,.383,
76813	*	.255,.354,.403,.431,.449,.463,.475,.485,.495,.504,
76814	*	.513,.522,.531,.539,.547,.612,.577,.514,.380,
76815	*	.252,.356,.404,.432,.451,.465,.477,.488,.498,.508,
76816	*	.517,.526,.534,.543,.629,.606,.573,.511,.377,
76817	*	.249,.355,.405,.435,.455,.470,.482,.493,.504,.514,
76818	*	.523,.531,.540,.639,.623,.600,.568,.506,.375,
76819	*	.249,.356,.409,.440,.461,.476,.488,.500,.510,.520,
76820	*	.529,.537,.644,.631,.615,.594,.563,.503,.372,
76821	*	.249,.357,.413,.445,.465,.481,.494,.505,.515,.525,
76822	*	.535,.647,.635,.621,.605,.584,.553,.495,.370,
76823	*	.251,.361,.419,.450,.470,.487,.500,.511,.521,.531,
76824	*	.649,.638,.626,.613,.597,.577,.547,.489,.366/
76825	DATA R2422/	.253,.366,.426,.458,.479,.495,.509,.520,.530,.651,
76826	*	.640,.628,.616,.603,.586,.567,.536,.481,.362,
76827	*	.255,.370,.432,.465,.487,.504,.517,.528,.654,.643,
76828	*	.632,.621,.609,.596,.579,.559,.529,.473,.357,
76829	*	.258,.376,.438,.473,.495,.512,.525,.657,.646,.634,
76830	*	.623,.612,.599,.585,.569,.549,.519,.467,.352,
76831	*	.259,.378,.442,.478,.501,.518,.654,.643,.632,.621,
76832	*	.610,.598,.586,.572,.557,.537,.509,.459,.347,
76833	*	.260,.381,.445,.483,.506,.650,.639,.629,.618,.607,
76834	*	.595,.583,.571,.557,.544,.526,.498,.451,.342,
76835	*	.261,.384,.448,.487,.643,.635,.624,.613,.602,.590,
76836	*	.579,.568,.557,.543,.530,.513,.489,.445,.337,
76837	*	.261,.386,.453,.635,.625,.616,.606,.596,.587,.576,
76838	*	.565,.554,.544,.533,.520,.504,.480,.436,.332,
76839	*	.262,.389,.623,.614,.605,.596,.587,.580,.571,.561,
76840	*	.551,.541,.531,.520,.508,.492,.471,.431,.331,
76841	*	.263,.607,.600,.592,.584,.577,.569,.562,.554,.545,
76842	*	.536,.527,.517,.507,.497,.484,.464,.428,.332,
76843	*	.603,.596,.588,.580,.573,.566,.559,.551,.543,.535,
76844	*	.526,.516,.506,.497,.485,.468,.437,.360,.101/
76845	DATA R1522/	.091,.322,.387,.416,.434,.448,.461,.474,.485,.495,
76846	*	.505,.514,.523,.531,.539,.547,.554,.561,.567,
76847	*	.301,.381,.415,.434,.449,.462,.474,.485,.495,.505,
76848	*	.514,.523,.532,.539,.547,.554,.561,.567,.396,
76849	*	.308,.394,.428,.448,.462,.474,.485,.495,.505,.514,
76850	*	.523,.531,.540,.547,.555,.561,.568,.531,.392,
76851	*	.311,.402,.438,.458,.472,.483,.493,.504,.513,.522,
76852	*	.530,.538,.545,.553,.560,.566,.587,.527,.389,
76853	*	.312,.407,.446,.467,.481,.491,.501,.511,.519,.528,
76854	*	.535,.543,.550,.557,.563,.613,.580,.522,.386,
76855	*	.313,.413,.453,.474,.488,.498,.508,.518,.526,.534,
76856	*	.542,.549,.555,.561,.626,.605,.573,.517,.383,
76857	*	.314,.419,.458,.480,.494,.504,.514,.524,.531,.539,
76858	*	.546,.553,.559,.631,.616,.596,.566,.513,.380,
76859	*	.316,.422,.464,.486,.501,.512,.521,.529,.537,.544,
76860	*	.550,.556,.632,.619,.604,.586,.558,.505,.377,
76861	*	.316,.424,.468,.492,.507,.518,.526,.534,.541,.548,
76862	*	.554,.629,.619,.607,.595,.577,.549,.497,.373,
76863	*	.316,.427,.474,.499,.513,.524,.532,.539,.546,.552,
76864	*	.621,.611,.602,.592,.581,.565,.540,.488,.370/
76865	DATA R2522/	.315,.428,.477,.503,.518,.529,.537,.545,.552,.615,
76866	*	.607,.598,.589,.580,.570,.555,.531,.480,.365,
76867	*	.308,.424,.477,.505,.521,.533,.542,.550,.609,.602,
76868	*	.595,.587,.579,.570,.559,.545,.520,.474,.362,
76869	*	.310,.427,.481,.509,.526,.538,.548,.604,.596,.589,

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76870	*	.581,.574,.567,.558,.548,.533,.510,.468,.360,
76871	*	.310,.430,.485,.514,.531,.543,.600,.593,.586,.579,
76872	*	.572,.564,.556,.547,.536,.522,.501,.461,.356,
76873	*	.311,.432,.488,.518,.536,.598,.592,.586,.578,.571,
76874	*	.564,.555,.546,.536,.526,.512,.493,.457,.355,
76875	*	.312,.434,.491,.521,.598,.592,.586,.579,.572,.564,
76876	*	.556,.547,.538,.528,.519,.507,.490,.453,.356,
76877	*	.312,.437,.495,.598,.592,.585,.579,.572,.565,.557,
76878	*	.548,.540,.531,.523,.514,.504,.488,.453,.359,
76879	*	.313,.439,.598,.592,.586,.580,.573,.566,.559,.552,
76880	*	.543,.534,.525,.518,.510,.500,.485,.454,.364,
76881	*	.313,.597,.591,.585,.580,.573,.566,.559,.551,.543,
76882	*	.536,.528,.520,.513,.505,.497,.485,.456,.370,
76883	*	.597,.591,.585,.579,.573,.566,.558,.551,.543,.535,
76884	*	.528,.521,.513,.506,.498,.488,.465,.398,.113/
76885	C	
76886	END	

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77000      BLOCK DATA
77001      C
77002      C BLOCK DATA Subprogram 07
77003      C
77004      C Common block array subscripts:
77005      C
77006      C CRED4P(19,2,7,3,3) - CRED4P ( 1BY, 1P, ITECH-3, ICUTS, ITEST )
77007      C
77008      C Common block dictionary:
77009      C
77010      C      Name      Type      Description
77011      C      -----
77012      C /IMCR4P/:
77013      C
77014      C CRED4P   R      1/M credit percentages for technologies 4 - 10 (4+ or 4P)
77015      C
77016      C Local array subscripts:
77017      C
77018      C C4<I><J>(19,2,4) - C4<I><J> ( 1BY, 1P, ITECHA )
77019      C C8<I><J>(19,2,3) - C8<I><J> ( 1BY, 1P, ITECHB )
77020      C
77021      C where I = ICUTS = 1,2,3; J = ITEST = 1,2,3
77022      C      ITECHA = technologies 4 - 7; ITECHB = technologies 8 - 10
77023      C
77024      C Local array dictionary:
77025      C
77026      C The local arrays are all technology 4+ 1/M credit percentages. Their
77027      C names follow the IJ syntax described for the subscripts. Note that:
77028      C
77029      C C4<I><J>(1,1,1) EQU to CRED4P(1,1,1,<I>,<J>) (technologies 4 through 7)
77030      C C8<I><J>(1,1,1) EQU to CRED4P(1,1,5,<I>,<J>) (technologies 8 through 10)
77031      C
77032      C Notes:
77033      C
77034      C MOBILE2 had both credits arrays initialized in 1 BLOCK DATA. MOBILE3
77035      C assigns a BLOCK DATA to each, due to their size.
77036      C
77037      C
77038      C      COMMON /IMCR4P/ CRED4P(19,2,7,3,3)
77039      C
77040      C      DIMENSION
77041      C      *C411(19,2,4),C811(19,2,3),
77042      C      *C421(19,2,4),C821(19,2,3),
77043      C      *C431(19,2,4),C831(19,2,3),
77044      C      *C412(19,2,4),C812(19,2,3),
77045      C      *C422(19,2,4),C822(19,2,3),
77046      C      *C432(19,2,4),C832(19,2,3),
77047      C      *C413(19,2,4),C813(19,2,3),
77048      C      *C423(19,2,4),C823(19,2,3),
77049      C      *C433(19,2,4),C833(19,2,3)
77050      C
77051      C      EQUIVALENCE
77052      C      *(CRED4P(1,1,1,1,1),C411(1,1,1)),(CRED4P(1,1,5,1,1),C811(1,1,1)),
77053      C      *(CRED4P(1,1,1,2,1),C421(1,1,1)),(CRED4P(1,1,5,2,1),C821(1,1,1)),
77054      C      *(CRED4P(1,1,1,3,1),C431(1,1,1)),(CRED4P(1,1,5,3,1),C831(1,1,1)),
77055      C      *(CRED4P(1,1,1,1,2),C412(1,1,1)),(CRED4P(1,1,5,1,2),C812(1,1,1)),
77056      C      *(CRED4P(1,1,1,2,2),C422(1,1,1)),(CRED4P(1,1,5,2,2),C822(1,1,1)),
77057      C      *(CRED4P(1,1,1,3,2),C432(1,1,1)),(CRED4P(1,1,5,3,2),C832(1,1,1)),

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77058      *(CRED4P(1,1,1,1,3),C413(1,1,1)),(CRED4P(1,1,5,1,3),C813(1,1,1)),
77059      *(CRED4P(1,1,1,2,3),C423(1,1,1)),(CRED4P(1,1,5,2,3),C823(1,1,1)),
77060      *(CRED4P(1,1,1,3,3),C433(1,1,1)),(CRED4P(1,1,5,3,3),C833(1,1,1))
77061      C
77062      C technologies 4 through 10 credit percentages:
77063      C
77064          DATA C411/
77065      *          .027,.105,.173,.225,.266,.315,.355,.384,.405,.421,
77066      *          .433,.442,.449,.454,.458,.460,.461,.458,.445,
77067      *          .032,.120,.193,.249,.293,.349,.397,.431,.457,.477,
77068      *          .494,.507,.517,.526,.532,.537,.539,.537,.520,
77069      *          .028,.109,.177,.229,.268,.317,.357,.385,.406,.421,
77070      *          .433,.442,.448,.453,.456,.458,.458,.455,.442,
77071      *          .041,.142,.219,.275,.318,.375,.422,.455,.480,.499,
77072      *          .514,.526,.535,.542,.548,.552,.553,.550,.530,
77073      *          .028,.106,.172,.222,.260,.308,.347,.375,.395,.410,
77074      *          .422,.430,.437,.441,.445,.447,.447,.444,.432,
77075      *          .040,.139,.215,.269,.311,.367,.413,.445,.469,.487,
77076      *          .502,.513,.522,.530,.535,.539,.540,.538,.521,
77077      *          .030,.113,.181,.232,.271,.319,.358,.385,.405,.420,
77078      *          .432,.440,.447,.452,.456,.459,.461,.461,.458,
77079      *          .043,.143,.218,.271,.311,.365,.410,.441,.465,.483,
77080      *          .497,.508,.517,.525,.531,.536,.540,.542,.538/
77081          DATA C811/
77082      *          .027,.101,.162,.207,.242,.287,.324,.351,.370,.384,
77083      *          .394,.402,.409,.413,.417,.419,.420,.421,.417,
77084      *          .040,.135,.205,.255,.292,.344,.387,.417,.439,.455,
77085      *          .468,.478,.487,.493,.499,.503,.506,.507,.503,
77086      *          .024,.090,.145,.185,.216,.258,.294,.319,.337,.350,
77087      *          .360,.368,.373,.378,.381,.383,.385,.386,.386,
77088      *          .037,.126,.191,.237,.270,.319,.359,.387,.408,.423,
77089      *          .435,.444,.452,.458,.462,.466,.469,.472,.473,
77090      *          .022,.084,.135,.173,.201,.242,.277,.301,.318,.331,
77091      *          .341,.348,.353,.357,.360,.362,.364,.365,.364,
77092      *          .036,.123,.186,.229,.261,.308,.348,.375,.395,.409,
77093      *          .420,.429,.436,.441,.446,.449,.452,.453,.454/
77094          DATA C421/
77095      *          .022,.087,.148,.198,.239,.289,.332,.363,.386,.403,
77096      *          .416,.427,.434,.440,.444,.447,.447,.445,.432,
77097      *          .027,.103,.171,.225,.269,.329,.379,.415,.442,.464,
77098      *          .481,.495,.506,.514,.521,.526,.528,.526,.509,
77099      *          .023,.089,.150,.199,.239,.290,.333,.363,.386,.403,
77100      *          .416,.425,.433,.438,.442,.444,.444,.442,.428,
77101      *          .034,.121,.193,.248,.293,.352,.402,.438,.464,.484,
77102      *          .500,.513,.523,.530,.536,.540,.541,.538,.518,
77103      *          .022,.086,.145,.193,.231,.281,.323,.353,.375,.392,
77104      *          .405,.414,.422,.427,.431,.433,.433,.431,.420,
77105      *          .034,.119,.189,.242,.285,.344,.393,.428,.453,.473,
77106      *          .488,.501,.510,.518,.524,.528,.529,.527,.510,
77107      *          .024,.093,.154,.202,.242,.292,.334,.364,.386,.402,
77108      *          .415,.425,.433,.439,.443,.447,.449,.450,.447,
77109      *          .036,.122,.191,.244,.286,.343,.391,.424,.450,.469,
77110      *          .484,.497,.507,.515,.521,.527,.531,.533,.530/
77111          DATA C821/
77112      *          .021,.081,.135,.178,.213,.260,.300,.329,.350,.366,
77113      *          .378,.387,.394,.400,.404,.407,.409,.410,.407,
77114      *          .034,.115,.180,.229,.268,.322,.368,.400,.424,.442,
77115      *          .456,.467,.476,.483,.489,.494,.497,.498,.495,

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77116	*	.018,.071,.118,.157,.188,.232,.270,.298,.318,.333,
77117	*	.344,.353,.360,.365,.369,.372,.375,.376,.377,
77118	*	.031,.107,.167,.212,.247,.298,.341,.372,.394,.411,
77119	*	.423,.434,.442,.448,.454,.458,.462,.464,.466,
77120	*	.017,.065,.109,.144,.173,.216,.253,.280,.299,.314,
77121	*	.325,.333,.340,.345,.349,.351,.354,.355,.355,
77122	*	.030,.103,.161,.204,.238,.288,.330,.359,.381,.397,
77123	*	.409,.419,.426,.432,.437,.441,.444,.446,.447/
77124		DATA C431/
77125	*	.016,.065,.114,.156,.193,.244,.288,.321,.345,.365,
77126	*	.380,.391,.401,.408,.413,.416,.418,.416,.405,
77127	*	.018,.072,.125,.172,.214,.275,.329,.368,.399,.423,
77128	*	.442,.458,.471,.481,.488,.494,.496,.495,.479,
77129	*	.016,.066,.114,.155,.191,.242,.287,.319,.344,.363,
77130	*	.378,.389,.398,.405,.410,.413,.414,.412,.400,
77131	*	.023,.083,.140,.188,.230,.293,.348,.387,.417,.441,
77132	*	.459,.474,.486,.495,.502,.506,.508,.505,.487,
77133	*	.016,.063,.109,.149,.183,.233,.277,.309,.333,.352,
77134	*	.367,.378,.387,.394,.399,.402,.403,.402,.392,
77135	*	.023,.081,.136,.183,.224,.286,.339,.378,.407,.430,
77136	*	.448,.463,.474,.483,.490,.495,.497,.495,.480,
77137	*	.018,.068,.117,.158,.193,.244,.287,.320,.344,.363,
77138	*	.378,.390,.399,.407,.413,.418,.421,.423,.422,
77139	*	.024,.084,.139,.185,.225,.286,.338,.376,.405,.428,
77140	*	.446,.461,.473,.483,.491,.497,.502,.505,.504/
77141		DATA C831/
77142	*	.014,.057,.098,.133,.165,.212,.254,.285,.309,.327,
77143	*	.341,.352,.361,.368,.374,.378,.381,.383,.382,
77144	*	.022,.078,.128,.171,.208,.266,.316,.352,.380,.401,
77145	*	.418,.432,.443,.452,.459,.465,.469,.472,.470,
77146	*	.012,.048,.083,.113,.141,.185,.225,.255,.277,.295,
77147	*	.308,.319,.328,.335,.341,.345,.349,.352,.353,
77148	*	.020,.071,.117,.156,.189,.244,.292,.326,.352,.372,
77149	*	.388,.400,.411,.419,.426,.432,.437,.441,.443,
77150	*	.010,.042,.073,.101,.126,.169,.208,.237,.259,.276,
77151	*	.289,.299,.308,.315,.320,.324,.328,.330,.332,
77152	*	.019,.068,.112,.149,.181,.234,.280,.314,.359,.358,
77153	*	.373,.386,.395,.403,.410,.415,.420,.423,.425/
77154		DATA C412/
77155	*	.031,.121,.193,.245,.285,.331,.369,.396,.416,.431,
77156	*	.443,.451,.458,.463,.466,.468,.469,.467,.453,
77157	*	.042,.152,.230,.283,.323,.376,.419,.451,.475,.494,
77158	*	.509,.521,.531,.539,.546,.550,.553,.552,.534,
77159	*	.033,.126,.198,.250,.288,.334,.372,.398,.418,.432,
77160	*	.443,.451,.457,.462,.465,.467,.467,.464,.450,
77161	*	.054,.179,.261,.314,.353,.404,.447,.477,.499,.517,
77162	*	.530,.541,.550,.557,.562,.566,.567,.565,.545,
77163	*	.033,.123,.193,.243,.280,.325,.362,.388,.407,.421,
77164	*	.432,.440,.446,.450,.453,.455,.455,.453,.441,
77165	*	.053,.176,.256,.308,.345,.395,.437,.466,.488,.505,
77166	*	.518,.529,.537,.544,.549,.552,.554,.552,.535,
77167	*	.036,.131,.203,.254,.291,.335,.372,.398,.417,.431,
77168	*	.441,.449,.455,.460,.463,.466,.468,.468,.465,
77169	*	.056,.181,.259,.309,.344,.393,.433,.462,.483,.499,
77170	*	.512,.522,.531,.537,.543,.547,.551,.553,.549/
77171		DATA C812/
77172	*	.032,.118,.184,.229,.261,.304,.339,.363,.381,.394,
77173	*	.404,.411,.417,.421,.424,.426,.427,.427,.423,

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77174	*	.053,.172,.246,.293,.325,.371,.410,.437,.456,.471,
77175	*	.483,.492,.499,.505,.510,.514,.516,.517,.513,
77176	*	.029,.107,.166,.206,.235,.275,.308,.331,.348,.360,
77177	*	.369,.376,.381,.385,.388,.390,.391,.392,.392,
77178	*	.050,.162,.231,.273,.302,.345,.381,.406,.425,.438,
77179	*	.449,.457,.463,.468,.472,.476,.478,.480,.481,
77180	*	.027,.101,.156,.193,.220,.258,.291,.313,.329,.341,
77181	*	.350,.356,.361,.364,.367,.369,.370,.370,.369,
77182	*	.048,.158,.224,.265,.292,.334,.370,.394,.411,.424,
77183	*	.434,.442,.447,.452,.456,.458,.460,.462,.462/
77184		DATA C422/
77185	*	.026,.103,.171,.223,.264,.313,.354,.382,.404,.420,
77186	*	.432,.441,.448,.454,.457,.459,.460,.457,.444,
77187	*	.036,.134,.210,.265,.308,.362,.408,.441,.466,.486,
77188	*	.501,.514,.524,.532,.539,.543,.546,.544,.526,
77189	*	.028,.107,.175,.227,.266,.315,.355,.384,.405,.420,
77190	*	.432,.441,.447,.452,.456,.457,.457,.455,.441,
77191	*	.046,.158,.238,.294,.335,.389,.434,.466,.489,.508,
77192	*	.522,.533,.542,.550,.555,.559,.560,.557,.537,
77193	*	.027,.104,.170,.220,.258,.306,.346,.374,.394,.409,
77194	*	.421,.429,.436,.441,.444,.446,.446,.444,.432,
77195	*	.046,.155,.234,.288,.327,.381,.425,.455,.478,.496,
77196	*	.510,.521,.530,.537,.542,.545,.547,.545,.527,
77197	*	.030,.111,.179,.230,.269,.317,.356,.384,.404,.419,
77198	*	.431,.439,.446,.451,.455,.458,.460,.461,.458,
77199	*	.049,.160,.237,.289,.327,.379,.421,.451,.474,.491,
77200	*	.504,.515,.524,.531,.537,.542,.545,.547,.543/
77201		DATA C822/
77202	*	.026,.099,.160,.205,.240,.285,.323,.349,.368,.383,
77203	*	.393,.402,.408,.412,.416,.418,.420,.420,.417,
77204	*	.046,.151,.224,.273,.308,.357,.398,.426,.447,.463,
77205	*	.475,.485,.493,.499,.504,.508,.511,.512,.508,
77206	*	.023,.089,.143,.183,.214,.256,.292,.317,.336,.349,
77207	*	.359,.367,.373,.377,.380,.383,.384,.386,.386,
77208	*	.043,.142,.209,.254,.286,.332,.370,.397,.416,.431,
77209	*	.442,.451,.457,.463,.467,.471,.474,.476,.477,
77210	*	.022,.082,.133,.171,.199,.240,.275,.299,.317,.330,
77211	*	.340,.347,.352,.357,.360,.362,.363,.364,.364,
77212	*	.041,.138,.203,.246,.276,.321,.359,.384,.403,.417,
77213	*	.427,.435,.442,.447,.451,.454,.456,.458,.458/
77214		DATA C432/
77215	*	.020,.080,.138,.187,.227,.278,.321,.353,.376,.394,
77216	*	.408,.419,.427,.433,.437,.440,.441,.438,.426,
77217	*	.026,.098,.164,.218,.262,.322,.373,.409,.437,.459,
77218	*	.477,.490,.502,.511,.518,.522,.524,.522,.505,
77219	*	.021,.082,.140,.187,.227,.278,.322,.353,.376,.394,
77220	*	.407,.417,.425,.431,.435,.437,.438,.435,.422,
77221	*	.033,.115,.185,.240,.284,.345,.396,.432,.459,.479,
77222	*	.495,.508,.519,.527,.532,.536,.538,.534,.515,
77223	*	.020,.079,.135,.181,.219,.269,.312,.343,.366,.383,
77224	*	.396,.406,.414,.420,.424,.426,.427,.425,.414,
77225	*	.032,.113,.181,.234,.278,.337,.386,.422,.448,.468,
77226	*	.484,.497,.506,.514,.520,.524,.526,.523,.506,
77227	*	.022,.086,.143,.191,.229,.280,.322,.353,.376,.394,
77228	*	.407,.417,.426,.432,.437,.441,.443,.444,.442,
77229	*	.034,.117,.184,.236,.278,.336,.384,.419,.445,.464,
77230	*	.480,.493,.503,.511,.518,.524,.528,.530,.527/
77231		DATA C832/

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77232	*	.019,.074,.124,.166,.200,.248,.289,.319,.341,.357,
77233	*	.370,.380,.387,.393,.398,.401,.403,.404,.402,
77234	*	.032,.109,.172,.221,.260,.315,.362,.395,.419,.437,
77235	*	.452,.463,.473,.480,.486,.491,.494,.495,.492,
77236	*	.016,.064,.108,.145,.175,.220,.260,.288,.309,.324,
77237	*	.336,.346,.353,.359,.363,.367,.369,.371,.372,
77238	*	.029,.101,.160,.204,.239,.291,.335,.366,.389,.406,
77239	*	.420,.430,.439,.445,.451,.455,.459,.462,.463,
77240	*	.015,.058,.099,.132,.160,.204,.242,.270,.290,.305,
77241	*	.317,.326,.333,.338,.343,.346,.348,.350,.350,
77242	*	.028,.098,.154,.197,.230,.281,.324,.354,.376,.393,
77243	*	.405,.415,.423,.429,.434,.438,.441,.444,.444/
77244		DATA C413/
77245	*	.035,.133,.206,.258,.295,.340,.377,.403,.423,.437,
77246	*	.448,.457,.463,.468,.471,.473,.474,.471,.458,
77247	*	.047,.168,.246,.298,.336,.386,.428,.459,.482,.501,
77248	*	.515,.527,.537,.545,.551,.556,.558,.557,.540,
77249	*	.037,.139,.212,.263,.299,.344,.380,.406,.424,.438,
77250	*	.449,.457,.463,.467,.470,.471,.472,.469,.455,
77251	*	.061,.199,.280,.330,.366,.415,.456,.485,.507,.523,
77252	*	.537,.547,.556,.563,.568,.572,.573,.571,.552,
77253	*	.037,.136,.207,.256,.291,.334,.370,.395,.413,.427,
77254	*	.437,.445,.451,.455,.458,.459,.459,.457,.445,
77255	*	.060,.196,.275,.324,.358,.406,.446,.474,.495,.511,
77256	*	.524,.534,.543,.549,.554,.558,.559,.558,.541,
77257	*	.040,.145,.218,.267,.302,.345,.380,.405,.423,.436,
77258	*	.446,.454,.460,.464,.468,.470,.471,.472,.468,
77259	*	.064,.201,.278,.325,.358,.404,.442,.469,.489,.505,
77260	*	.517,.527,.536,.542,.548,.552,.555,.557,.553/
77261		DATA C813/
77262	*	.036,.132,.198,.242,.273,.313,.347,.370,.387,.400,
77263	*	.409,.416,.421,.425,.428,.430,.431,.431,.427,
77264	*	.060,.192,.265,.308,.338,.382,.418,.444,.463,.477,
77265	*	.488,.497,.504,.510,.514,.518,.520,.521,.517,
77266	*	.033,.120,.180,.219,.246,.284,.316,.338,.354,.365,
77267	*	.374,.380,.385,.389,.391,.393,.394,.395,.394,
77268	*	.057,.181,.248,.288,.314,.355,.390,.414,.431,.444,
77269	*	.454,.461,.468,.472,.476,.479,.482,.483,.484,
77270	*	.031,.114,.170,.206,.231,.267,.298,.320,.335,.346,
77271	*	.354,.360,.365,.368,.370,.372,.373,.373,.372,
77272	*	.055,.176,.242,.280,.305,.344,.378,.401,.418,.430,
77273	*	.439,.446,.452,.456,.459,.462,.464,.465,.465/
77274		DATA C423/
77275	*	.029,.112,.182,.235,.275,.323,.362,.390,.411,.426,
77276	*	.438,.447,.454,.459,.462,.464,.465,.462,.449,
77277	*	.041,.148,.226,.280,.321,.373,.418,.449,.474,.493,
77278	*	.508,.520,.530,.538,.545,.549,.552,.550,.533,
77279	*	.031,.116,.187,.239,.278,.325,.364,.392,.412,.427,
77280	*	.438,.446,.453,.458,.461,.462,.462,.460,.446,
77281	*	.052,.175,.257,.311,.350,.402,.445,.475,.498,.515,
77282	*	.529,.540,.549,.556,.561,.565,.566,.564,.544,
77283	*	.030,.113,.182,.232,.270,.316,.354,.381,.401,.416,
77284	*	.427,.435,.441,.446,.449,.451,.451,.448,.436,
77285	*	.052,.172,.252,.304,.342,.393,.435,.464,.486,.503,
77286	*	.517,.527,.536,.542,.548,.551,.553,.551,.534,
77287	*	.033,.121,.191,.243,.281,.327,.365,.392,.411,.425,
77288	*	.436,.445,.451,.456,.460,.462,.464,.465,.461,
77289	*	.055,.177,.255,.305,.341,.391,.431,.460,.481,.498,

Appendix C: MOBILE3 Block Data 07

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```

77290      *      .511,.521,.529,.536,.542,.547,.550,.552,.548/
77291      DATA C823/
77292      *      .029,.109,.172,.218,.251,.295,.332,.357,.375,.389,
77293      *      .399,.407,.413,.417,.420,.422,.424,.424,.420,
77294      *      .052,.168,.242,.289,.322,.369,.408,.435,.455,.470,
77295      *      .482,.491,.498,.504,.509,.513,.515,.516,.512,
77296      *      .026,.098,.155,.195,.225,.266,.301,.325,.342,.355,
77297      *      .365,.372,.377,.381,.384,.387,.388,.389,.389,
77298      *      .048,.158,.227,.270,.299,.343,.380,.405,.423,.437,
77299      *      .448,.456,.462,.467,.472,.475,.478,.479,.480,
77300      *      .024,.092,.145,.183,.210,.250,.284,.307,.324,.336,
77301      *      .345,.352,.357,.361,.364,.365,.367,.367,.367,
77302      *      .047,.154,.221,.262,.290,.332,.368,.392,.410,.423,
77303      *      .433,.440,.446,.451,.455,.458,.460,.461,.461/
77304      DATA C433/
77305      *      .022,.089,.151,.202,.243,.293,.336,.366,.389,.406,
77306      *      .419,.429,.437,.443,.447,.449,.449,.447,.434,
77307      *      .029,.110,.179,.234,.279,.337,.386,.422,.448,.469,
77308      *      .486,.500,.510,.519,.526,.530,.533,.531,.513,
77309      *      .023,.092,.154,.204,.244,.294,.337,.367,.389,.406,
77310      *      .419,.428,.435,.441,.445,.447,.447,.444,.431,
77311      *      .037,.129,.203,.259,.303,.362,.410,.445,.470,.490,
77312      *      .506,.518,.528,.535,.541,.545,.546,.543,.523,
77313      *      .023,.089,.149,.197,.236,.285,.327,.357,.379,.395,
77314      *      .407,.417,.424,.429,.433,.435,.436,.433,.422,
77315      *      .036,.126,.199,.253,.296,.353,.401,.435,.460,.479,
77316      *      .494,.506,.515,.523,.528,.532,.534,.531,.514,
77317      *      .025,.095,.158,.207,.246,.296,.337,.367,.389,.405,
77318      *      .418,.428,.435,.441,.445,.449,.451,.452,.449,
77319      *      .039,.130,.201,.255,.296,.352,.398,.431,.456,.475,
77320      *      .489,.501,.511,.519,.525,.531,.534,.536,.533/
77321      DATA C833/
77322      *      .022,.083,.138,.182,.217,.264,.304,.333,.353,.369,
77323      *      .381,.390,.397,.402,.406,.409,.411,.411,.409,
77324      *      .036,.123,.190,.239,.277,.331,.376,.407,.430,.447,
77325      *      .461,.472,.481,.487,.493,.497,.500,.502,.498,
77326      *      .019,.073,.122,.161,.192,.236,.274,.301,.321,.336,
77327      *      .347,.356,.362,.367,.371,.374,.377,.378,.379,
77328      *      .033,.114,.176,.222,.256,.307,.349,.378,.400,.416,
77329      *      .428,.438,.446,.452,.457,.461,.465,.467,.468,
77330      *      .017,.067,.112,.148,.177,.220,.257,.283,.302,.317,
77331      *      .328,.336,.342,.347,.351,.353,.355,.357,.357,
77332      *      .032,.110,.171,.214,.247,.296,.337,.366,.387,.402,
77333      *      .414,.423,.430,.436,.441,.444,.447,.449,.450/
77334
77335

```

C

END

78000 BLOCK DATA

```

78001 C
78002 C BLOCK DATA Subprogram 08
78003 C
78004 C BLOCK DATA 08 initializes methane offset values.
78005 C
78006 C Common block array subscripts:
78007 C
78008 C EXMETH(3,5,8,2) - EXMETH ( IB, IEX, IV, IR )
78009 C MYGEXM(5,8,2) - MYGEXM ( IG, IV, IR )
78010 C
78011 C Common block dictionary:
78012 C
78013 C Name Type Description
78014 C -----
78015 C /BEFGCM/:
78016 C
78017 C EXMETH R methane offset to the basic emission factor
78018 C MYGEXM I the last year of the methane offset model year groups
78019 C
78020 C Local array subscripts:
78021 C
78022 C EXML01(3,15) - EXML01 ( IB, IEX/IV )
78023 C EXML02(3,15) - EXML02 ( IB, IEX/IV )
78024 C EXML03(3,10) - EXML03 ( IB, IEX/IV )
78025 C EXMH11(3,15) - EXMH11 ( IB, IEX/IV )
78026 C EXMH12(3,15) - EXMH12 ( IB, IEX/IV )
78027 C EXMH13(3,10) - EXMH13 ( IB, IEX/IV )
78028 C IEXML0(5,8) - IEXML0 ( IG, IV )
78029 C IEXMH1(5,8) - IEXMH1 ( IG, IV )
78030 C
78031 C Local array dictionary:
78032 C
78033 C Name Type Description
78034 C -----
78035 C EXML01 R low alt. region methane offset by bag for LDGV, LDGT1, LDGT2
78036 C EXML02 R low alt. region methane offset by bag for HDGV, LDDV, LDDT
78037 C EXML03 R low alt. region methane offset by bag for HDDV, MC
78038 C EXMH11 R high alt. region methane offset by bag for LDGV, LDGT1, LDGT2
78039 C EXMH12 R high alt. region methane offset by bag for HDGV, LDDV, LDDT
78040 C EXMH13 R high alt. region methane offset by bag for HDDV, MC
78041 C IEXML0 I last year of model year groups, low altitude region
78042 C IEXMH1 I last year of methane offset my groups, high altitude region
78043 C
78044 C Notes:
78045 C
78046 C In MOBILE2, methane was a multiplicative factor.
78047 C The methane offset values were installed in this BLOCK DATA
78048 C as a subtractive factor in MOBILE3.
78049 C

```

```

78050 COMMON /BEFGCM/ EXMETH(3,5,8,2),MYGEXM(5,8,2)
78051 C

```

78052 DIMENSION

```

78053 * EXML01(3,15),
78054 * EXML02(3,15),
78055 * EXML03(3,10),
78056 * EXMH11(3,15),
78057 * EXMH12(3,15),

```



```

78058      * EXMH13(3,10),
78059      * IEXMLO(5,8),
78060      * IEXMHI(5,8)
78061      C
78062      EQUIVALENCE
78063      * (EXMETH(1,1,1,1),EXMLO1(1,1)),
78064      * (EXMETH(1,1,4,1),EXMLO2(1,1)),
78065      * (EXMETH(1,1,7,1),EXMLO3(1,1)),
78066      * (EXMETH(1,1,1,2),EXMH11(1,1)),
78067      * (EXMETH(1,1,4,2),EXMH12(1,1)),
78068      * (EXMETH(1,1,7,2),EXMH13(1,1)),
78069      * (MYGEXM(1,1,1),IEXMLO(1,1)),
78070      * (MYGEXM(1,1,2),IEXMHI(1,1))
78071      C
78072      C Methane offset values by bag, by model
78073      C year group, by vehicle, by region
78074      C
78075      C Low altitude region
78076      C
78077      C      Bag1      Bag2      Bag3
78078      C
78079      DATA EXMLO1/
78080      C LDGV
78081      * 0.420, 0.310, 0.230,
78082      * 0.250, 0.160, 0.120,
78083      * 0.250, 0.160, 0.120,
78084      * 0.250, 0.160, 0.120,
78085      * 0.140, 0.090, 0.080,
78086      C LDGT1
78087      * 0.420, 0.310, 0.230,
78088      * 0.290, 0.190, 0.140,
78089      * 0.260, 0.160, 0.130,
78090      * 0.170, 0.110, 0.100,
78091      * 0.000, 0.000, 0.000,
78092      C LDGT2
78093      * 0.420, 0.310, 0.230,
78094      * 0.420, 0.310, 0.230,
78095      * 0.260, 0.160, 0.130,
78096      * 0.170, 0.110, 0.100,
78097      * 0.000, 0.000, 0.000/
78098      DATA EXMLO2/
78099      C HDGV
78100      * 0.670, 0.670, 0.670,
78101      * 0.310, 0.310, 0.310,
78102      * 0.180, 0.180, 0.180,
78103      * 0.000, 0.000, 0.000,
78104      * 0.000, 0.000, 0.000,
78105      C LDDV
78106      * 0.043, 0.043, 0.043,
78107      * 0.011, 0.011, 0.011,
78108      * 0.011, 0.011, 0.011,
78109      * 0.000, 0.000, 0.000,
78110      * 0.000, 0.000, 0.000,
78111      C LDDT
78112      * 0.034, 0.034, 0.034,
78113      * 0.034, 0.034, 0.034,
78114      * 0.017, 0.017, 0.017,
78115      * 0.000, 0.000, 0.000,

```

```

78116      * 0.000, 0.000, 0.000/
78117      DATA EXML03/
78118      C   HDDV
78119      * 0.145, 0.145, 0.145,
78120      * 0.145, 0.145, 0.145,
78121      * 0.118, 0.118, 0.118,
78122      * 0.100, 0.100, 0.100,
78123      * 0.000, 0.000, 0.000,
78124      C   MC
78125      * 0.530, 0.530, 0.530,
78126      * 0.270, 0.270, 0.270,
78127      * 0.240, 0.240, 0.240,
78128      * 0.000, 0.000, 0.000,
78129      * 0.000, 0.000, 0.000/
78130      C
78131      C   High altitude region
78132      C       Bag1   Bag2   Bag3
78133      C
78134      DATA EXMH11/
78135      C
78136      C   LDGV
78137      * 0.570, 0.420, 0.310,
78138      * 0.470, 0.300, 0.230,
78139      * 0.220, 0.140, 0.110,
78140      * 0.490, 0.310, 0.240,
78141      * 0.300, 0.200, 0.170,
78142      C   LDGT1
78143      * 0.570, 0.420, 0.310,
78144      * 0.560, 0.370, 0.270,
78145      * 0.500, 0.310, 0.250,
78146      * 0.370, 0.240, 0.220,
78147      * 0.000, 0.000, 0.000,
78148      C   LDGT2
78149      * 0.570, 0.420, 0.310,
78150      * 0.570, 0.420, 0.310,
78151      * 0.500, 0.330, 0.250,
78152      * 0.370, 0.240, 0.220,
78153      * 0.000, 0.000, 0.000/
78154      DATA EXMH12/
78155      C   HDGV
78156      * 0.910, 0.910, 0.910,
78157      * 0.600, 0.600, 0.600,
78158      * 0.350, 0.350, 0.350,
78159      * 0.000, 0.000, 0.000,
78160      * 0.000, 0.000, 0.000,
78161      C   LDDV
78162      * 0.099, 0.099, 0.099,
78163      * 0.025, 0.025, 0.025,
78164      * 0.025, 0.025, 0.025,
78165      * 0.000, 0.000, 0.000,
78166      * 0.000, 0.000, 0.000,
78167      C   LDDT
78168      * 0.079, 0.079, 0.079,
78169      * 0.079, 0.079, 0.079,
78170      * 0.040, 0.040, 0.040,
78171      * 0.022, 0.022, 0.022,
78172      * 0.000, 0.000, 0.000/
78173      DATA EXMH13/

```

78174 C HDDV
 78175 * 0.333, 0.333, 0.333,
 78176 * 0.333, 0.333, 0.333,
 78177 * 0.271, 0.271, 0.271,
 78178 * 0.230, 0.230, 0.230,
 78179 * 0.000, 0.000, 0.000,
 78180 C MC
 78181 * 0.068, 0.068, 0.068,
 78182 * 0.034, 0.034, 0.034,
 78183 * 0.037, 0.037, 0.037,
 78184 * 0.000, 0.000, 0.000,
 78185 * 0.000, 0.000, 0.000/
 78186 C
 78187 C Last year of methane offset model year groups for all 8 vehicle types
 78188 C
 78189 C Low altitude region
 78190 C
 78191 DATA IEXMLO/
 78192 * 1974, 1976, 1977, 1979, 2020,
 78193 * 1974, 1978, 1983, 2020, 0000,
 78194 * 1973, 1978, 1983, 2020, 0000,
 78195 * 1978, 1986, 2020, 0000, 0000,
 78196 * 1974, 1979, 2020, 0000, 0000,
 78197 * 1977, 1980, 2020, 0000, 0000,
 78198 * 1977, 1981, 1987, 2020, 0000,
 78199 * 1977, 1979, 2020, 0000, 0000/
 78200 C
 78201 C High altitude region
 78202 C
 78203 DATA IEXMHI/
 78204 * 1974, 1976, 1977, 1979, 2020,
 78205 * 1974, 1978, 1983, 2020, 0000,
 78206 * 1973, 1978, 1983, 2020, 0000,
 78207 * 1978, 1986, 2020, 0000, 0000,
 78208 * 1974, 1979, 2020, 0000, 0000,
 78209 * 1978, 1980, 1983, 2020, 0000,
 78210 * 1977, 1981, 1987, 2020, 0000,
 78211 * 1977, 1979, 2020, 0000, 0000/
 78212 C
 78213 END

```

79000      BLOCK DATA
79001      C
79002      C BLOCK DATA Subprogram 09
79003      C
79004      C BLOCK DATA 09 initializes evaporative HC hot soak losses.
79005      C
79006      C Common block array subscripts:
79007      C
79008      C HOTVAL(13,8,2) - HOTVAL ( IG, IV, IR )
79009      C MYGHOT(13,8,2) - MYGHOT ( IG, IV, IR )
79010      C
79011      C Common block dictionary:
79012      C
79013      C   Name      Type      Description
79014      C -----
79015      C /HOTCOM/:
79016      C
79017      C MAXHOT      I      maximum number of hot soak HC model year groups allowed
79018      C HOTVAL      R      hot soak HC loss
79019      C MYGHOT      I      last year of hot soak HC model year groups
79020      C
79021      C Local array subscripts:
79022      C
79023      C HOTVLO(13,8) - HOTVLO ( IG, IV )
79024      C HOTVHI(13,8) - HOTVHI ( IG, IV )
79025      C IHOTLO(13,8) - IHOTLO ( IG, IV )
79026      C IHOTHI(13,8) - IHOTHI ( IG, IV )
79027      C
79028      C Local array dictionary:
79029      C
79030      C   Name      Type      Description
79031      C -----
79032      C HOTVLO      R      hot soak HC loss, low altitude region
79033      C HOTVHI      R      hot soak HC loss, high altitude region
79034      C IHOTLO      I      last year of model year groups, low altitude region
79035      C IHOTHI      I      last year of model year groups, high altitude region
79036      C
79037      C Notes:
79038      C
79039      C New commercial fuel hot soak losses were installed.
79040      C
79041      C COMMON /HOTCOM/ MAXHOT,HOTVAL(13,8,2),MYGHOT(13,8,2)
79042      C
79043      C DIMENSION
79044      C * HOTVLO(13,8),
79045      C * HOTVHI(13,8),
79046      C * IHOTLO(13,8),
79047      C * IHOTHI(13,8)
79048      C
79049      C EQUIVALENCE
79050      C * (HOTVAL(1,1,1),HOTVLO(1,1)),
79051      C * (HOTVAL(1,1,2),HOTVHI(1,1)),
79052      C * (MYGHOT(1,1,1),IHOTLO(1,1)),
79053      C * (MYGHOT(1,1,2),IHOTHI(1,1))
79054      C
79055      C DATA MAXHOT/13/
79056      C
79057      C value of hot soak evaporative HC emissions

```



```

79058 C
79059 C low altitude region
79060 C
79061 DATA HOTVLO/
79062 C LDGV
79063 *22.45,16.15,12.32, 3.98, 3.75, 3.54, 3.31,
79064 * 3.01, 2.50, 2.05, 1.82, 2*0.,
79065 C LDGT1
79066 *22.45,16.15,12.32, 3.98, 3.59, 3.20, 2.81,
79067 * 2.47, 2.05, 1.82, 3*0.,
79068 C LDGT2
79069 *27.66, 3.98, 3.59, 3.20, 2.81, 2.47, 2.05,
79070 * 1.82, 5*0.,
79071 C HDGV
79072 *27.66, 6.34,11*0.,
79073 C LDDV
79074 * 0.00,12*0.,
79075 C LDDT
79076 * 0.00,12*0.,
79077 C HDDV
79078 * 0.00,12*0.,
79079 C MC
79080 * 4.56, 7.00, 7.53, 10*0./
79081 C
79082 C high altitude region
79083 C
79084 DATA HOTVHI/
79085 C LDGV
79086 *29.18,20.99,20.96,12.32,10.31, 9.71, 4.60,
79087 * 4.30, 3.01, 2.50, 2.05, 1.82, 1*0.,
79088 C LDGT1
79089 *29.18,20.99,20.96,12.32,10.31, 4.67, 4.16,
79090 * 3.65, 3.21, 2.67, 2.37, 2*0.,
79091 C LDGT2
79092 *35.96,10.31, 4.67, 4.16, 3.65, 3.21, 2.67,
79093 * 2.37, 5*0.,
79094 C HDGV
79095 *35.96, 8.24,11*0.,
79096 C LDDV
79097 * 0.00,12*0.,
79098 C LDDT
79099 * 0.00,12*0.,
79100 C HDDV
79101 * 0.00,12*0.,
79102 C MC
79103 * 5.93, 9.10, 9.79, 10*0./
79104 C
79105 C last year of hot soak HC model year groups
79106 C
79107 C low altitude region
79108 DATA IHOTLO/
79109 * 1970,1971,1977,1980,1981,1982,1983,1984,1986,1989,2020, 2*0,
79110 * 1970,1971,1977,1983,1984,1985,1986,1987,1989,2020, 3*0,
79111 * 1978,1983,1984,1985,1986,1987,1989,2020, 5*0,
79112 * 1984,2020,11*0,
79113 * 2020,12*0,
79114 * 2020,12*0,
79115 * 2020,12*0,

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79116 * 1977,1979,2020,10*0/
79117 C
79118 C high altitude region
79119 C
79120 DATA IHOTHI/
79121 * 1970,1971,1976,1977,1980,1981,1982,1983,1984,1986,1989,2020, 1*0,
79122 * 1970,1971,1976,1977,1983,1984,1985,1986,1987,1989,2020, 2*0,
79123 * 1978,1983,1984,1985,1986,1987,1989,2020, 5*0,
79124 * 1984,2020,11*0,
79125 * 2020,12*0,
79126 * 2020,12*0,
79127 * 2020,12*0,
79128 * 1977,1979,2020,10*0/
79129 C
79130 END

```

80000      BLOCK DATA
80001      C
80002      C BLOCK DATA Subprogram 10
80003      C
80004      C BLOCK DATA 10 initializes the average trips per day values.
80005      C
80006      C Common block array subscripts:
80007      C
80008      C TPDVAL(2,8,2) - TPDVAL ( IG, IV, IR )
80009      C MYGTPD(2,8,2) - MYGTPD ( IG, IV, IR )
80010      C
80011      C Common block dictionary:
80012      C
80013      C   Name      Type      Description
80014      C   -----
80015      C /TPDCOM/:
80016      C
80017      C MAXTPD      I      maximum number of model year groups allowed
80018      C TPDVAL      R      average trips per day (tpd)
80019      C MYGTPD      I      the last year of the model year group
80020      C
80021      C Local array subscripts:
80022      C
80023      C ITPDLO(2,8) - ITPDLO ( IG, IV )
80024      C ITPDHI(2,8) - ITPDHI ( IG, IV )
80025      C TPDVLO(2,8) - TPDVLO ( IG, IV )
80026      C TPDVHI(2,8) - TPDVHI ( IG, IV )
80027      C
80028      C Local array dictionary:
80029      C
80030      C   Name      Type      Description
80031      C   -----
80032      C ITPDLO      I      last year of low altitude region tpd model year group
80033      C ITPDHI      I      last year of high altitude region tpd model year group
80034      C TPDVLO      R      average trips per day in low altitude region
80035      C TPDVHI      R      average trips per day in high altitude region
80036      C
80037      C
80038      C COMMON /TPDCOM/ MAXTPD,TPDVAL(2,8,2),MYGTPD(2,8,2)
80039      C
80040      C DIMENSION
80041      C * TPDVLO(2,8),
80042      C * TPDVHI(2,8),
80043      C * ITPDLO(2,8),
80044      C * ITPDHI(2,8)
80045      C
80046      C EQUIVALENCE
80047      C * (TPDVAL(1,1,1),TPDVLO(1,1)),
80048      C * (TPDVAL(1,1,2),TPDVHI(1,1)),
80049      C * (MYGTPD(1,1,1),ITPDLO(1,1)),
80050      C * (MYGTPD(1,1,2),ITPDHI(1,1))
80051      C
80052      C DATA MAXTPD/2/
80053      C
80054      C Average number of trips per day
80055      C
80056      C Low altitude region
80057      C

```

```

80058      DATA TPDVLO/
80059      *      3.05, 0.0,
80060      *      3.05, 0.0,
80061      *      3.05, 0.0,
80062      *      6.88, 0.0,
80063      *      3.05, 0.0,
80064      *      3.05, 0.0,
80065      *      6.65, 0.0,
80066      *      1.35, 0.0/
80067      C
80068      C High altitude region
80069      C
80070      DATA TPDVHI/
80071      *      3.05, 0.0,
80072      *      3.05, 0.0,
80073      *      3.05, 0.0,
80074      *      6.88, 0.0,
80075      *      3.05, 0.0,
80076      *      3.05, 0.0,
80077      *      6.65, 0.0,
80078      *      1.35, 0.0/
80079      C
80080      C Last year of model year groups
80081      C Low altitude region
80082      C
80083      DATA ITPDLO/
80084      *      2020,0000,
80085      *      2020,0000,
80086      *      2020,0000,
80087      *      2020,0000,
80088      *      2020,0000,
80089      *      2020,0000,
80090      *      2020,0000,
80091      *      2020,0000/
80092      C
80093      C High altitude region
80094      C
80095      DATA ITPDHI/
80096      *      2020,0000,
80097      *      2020,0000,
80098      *      2020,0000,
80099      *      2020,0000,
80100      *      2020,0000,
80101      *      2020,0000,
80102      *      2020,0000,
80103      *      2020,0000/
80104      C
80105      END

```



```

81000      BLOCK DATA
81001      C
81002      C BLOCK DATA Subprogram 11
81003      C
81004      C BLOCK DATA 11 initializes the evaporative HC diurnal losses.
81005      C
81006      C Common block array subscripts:
81007      C
81008      C DIUVAL(13,8,2) - DIUVAL ( IG, IV, IR )
81009      C MYGDIU(13,8,2) - MYGDIU ( IG, IV, IR )
81010      C
81011      C Common block dictionary:
81012      C
81013      C   Name      Type      Description
81014      C   -----
81015      C /DIUCOM/:
81016      C
81017      C MAXDIU   I      maximum number of diurnal HC model year groups allowed
81018      C DIUVAL   R      diurnal HC loss
81019      C MYGDIU   I      the last year of the diurnal HC model year groups
81020      C
81021      C Local array subscripts:
81022      C
81023      C DIUVLO(13,8) - DIUVLO ( IG, IV )
81024      C DIUVHI(13,8) - DIUVHI ( IG, IV )
81025      C IDIULO(13,8) - IDIULO ( IG, IV )
81026      C IDIUHI(13,8) - IDIUHI ( IG, IV )
81027      C
81028      C Local array dictionary:
81029      C
81030      C   Name      Type      Description
81031      C   -----
81032      C DIUVLO   R      diurnal HC loss in low altitude region
81033      C DIUVHI   R      diurnal HC loss in low altitude region
81034      C IDIULO   I      last year of low altitude region diurnal HC model year groups
81035      C IDIUHI   I      last year of high altitude reg. diurnal HC model year groups
81036      C
81037      C Notes:
81038      C
81039      C New commercial fuel diurnal losses were installed.
81040      C
81041      C      COMMON /DIUCOM/ MAXDIU,DIUVAL(13,8,2),MYGDIU(13,8,2)
81042      C
81043      C      DIMENSION
81044      C      *   DIUVLO(13,8),
81045      C      *   DIUVHI(13,8),
81046      C      *   IDIULO(13,8),
81047      C      *   IDIUHI(13,8)
81048      C
81049      C      EQUIVALENCE
81050      C      *   (DIUVAL(1,1,1),DIUVLO(1,1)),
81051      C      *   (DIUVAL(1,1,2),DIUVHI(1,1)),
81052      C      *   (MYGDIU(1,1,1),IDIULO(1,1)),
81053      C      *   (MYGDIU(1,1,2),IDIUHI(1,1))
81054      C
81055      C      DATA MAXDIU/13/
81056      C
81057      C Value of diurnal evaporative HC emissions

```

```

81058 C
81059 C Low altitude region
81060 C
81061 DATA DIUVLO/
81062 C LDGV
81063 * 47.99,38.58,23.53, 9.31, 9*0.,
81064 C LDGT1
81065 * 47.99,38.58,23.53, 9.31, 9*0.,
81066 C LDGT2
81067 * 77.89, 9.31,11*0.,
81068 C HDGV
81069 * 77.89,14.83,11*0.,
81070 C LDDV
81071 * 0.00,12*0.,
81072 C LDDT
81073 * 0.00,12*0.,
81074 C HDDV
81075 * 0.00,12*0.,
81076 C MC
81077 * 6.71, 8.44, 8.60, 10*0./
81078 C
81079 C High altitude region
81080 C
81081 DATA DIUVHI/
81082 C LDGV
81083 * 62.38,50.15,44.93,22.53,24.11,12.10, 9.31,
81084 * 6*0.,
81085 C LDGT1
81086 * 62.38,50.15,44.93,23.53,24.11,12.10, 7*0.,
81087 C LDGT2
81088 *101.26,24.11,12.10,10*0.,
81089 C HDGV
81090 *101.26,19.28,11*0.,
81091 C LDDV
81092 * 0.00,12*0.,
81093 C LDDT
81094 * 0.00,12*0.,
81095 C HDDV
81096 * 0.00,12*0.,
81097 C MC
81098 * 8.72,10.97,11.18, 10*0./
81099 C
81100 C Last year of diurnal HC model year groups
81101 C
81102 C Low altitude region
81103 C
81104 DATA IDIULO/
81105 * 1970,1971,1977,2020, 9*0,
81106 * 1970,1971,1977,2020, 9*0,
81107 * 1978,2020,11*0,
81108 * 1984,2020,11*0,
81109 * 2020,12*0,
81110 * 2020,12*0,
81111 * 2020,12*0,
81112 * 1977,1979,2020,10*0/
81113 C
81114 C High altitude region
81115 C

```

Appendix C: MOBILE3 Block Data 11

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81116 DATA IDIUHI/
81117 * 1970,1971,1976,1977,1981,1983,2020, 6*0,
81118 * 1970,1971,1976,1977,1981,2020, 7*0,
81119 * 1978,1981,2020,10*0,
81120 * 1984,2020,11*0,
81121 * 2020,12*0,
81122 * 2020,12*0,
81123 * 2020,12*0,
81124 * 1977,1979,2020,10*0/
81125 C
81126 END

```

82000          BLOCK DATA
82001          C
82002          C BLOCK DATA Subprogram 12
82003          C
82004          C BLOCK DATA 12 initializes the average miles per day values.
82005          C
82006          C Common block array subscripts:
82007          C
82008          C XMPVAL (2,8,2) - XMPVAL ( IG, IV, IR )
82009          C MYGMPD (2,8,2) - MYGMPD ( IG, IV, IR )
82010          C
82011          C Common block dictionary:
82012          C
82013          C      Name      Type      Description
82014          C      -----
82015          C /XMPCOM/:
82016          C
82017          C MAXXMP      I      maximum number of mpd model year groups allowed
82018          C XMPVAL      R      average miles per day (mpd)
82019          C MYGMPD      I      last year of mpd model year groups
82020          C
82021          C Local array subscripts:
82022          C
82023          C IMPDLO (2,8) - IMPDLO ( IG, IV )
82024          C IMPDHI (2,8) - IMPDHI ( IG, IV )
82025          C XMPVLO (2,8) - XMPVLO ( IG, IV )
82026          C XMPVHI (2,8) - XMPVHI ( IG, IV )
82027          C
82028          C Local array dictionary:
82029          C
82030          C      Name      Type      Description
82031          C      -----
82032          C IMPDLO      I      last year of low altitude region mpd model year groups
82033          C IMPDHI      I      last year of high altitude region mpd model year groups
82034          C XMPVLO      R      average miles per day in low altitude region
82035          C XMPVHI      R      average miles per day in high altitude region
82036          C
82037          C      COMMON /XMPCOM/ MAXXMP,XMPVAL (2,8,2),MYGMPD (2,8,2)
82038          C
82039          C      DIMENSION
82040          C      * XMPVLO (2,8) ,
82041          C      * XMPVHI (2,8) ,
82042          C      * IMPDLO (2,8) ,
82043          C      * IMPDHI (2,8)
82044          C
82045          C      EQUIVALENCE
82046          C      * (XMPVAL (1,1,1),XMPVLO (1,1)) ,
82047          C      * (XMPVAL (1,1,2),XMPVHI (1,1)) ,
82048          C      * (MYGMPD (1,1,1),IMPDLO (1,1)) ,
82049          C      * (MYGMPD (1,1,2),IMPDHI (1,1))
82050          C
82051          C      DATA MAXXMP/2/
82052          C
82053          C      Average miles per day
82054          C
82055          C      Low altitude region
82056          C
82057          C      DATA XMPVLO/

```


Appendix C: MOBILE3 Block Data 12

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```

82058      *      31.1, 0.0,
82059      *      26.3, 0.0,
82060      *      33.7, 0.0,
82061      *      36.7, 0.0,
82062      *      31.1, 0.0,
82063      *      29.8, 0.0,
82064      *     138.3, 0.0,
82065      *       8.3, 0.0/
82066      C
82067      C High altitude region
82068      C
82069      DATA XMPVHI/
82070      *      31.1, 0.0,
82071      *      26.3, 0.0,
82072      *      33.7, 0.0,
82073      *      36.7, 0.0,
82074      *      31.1, 0.0,
82075      *      29.8, 0.0,
82076      *     138.3, 0.0,
82077      *       8.3, 0.0/
82078      C
82079      C Last year of mpd model year groups
82080      C Low altitude region
82081      C
82082      DATA IMPDLO/
82083      *    2020,0000,
82084      *    2020,0000,
82085      *    2020,0000,
82086      *    2020,0000,
82087      *    2020,0000,
82088      *    2020,0000,
82089      *    2020,0000,
82090      *    2020,0000/
82091      C
82092      C High altitude region
82093      C
82094      DATA IMPDHI/
82095      *    2020,0000,
82096      *    2020,0000,
82097      *    2020,0000,
82098      *    2020,0000,
82099      *    2020,0000,
82100      *    2020,0000,
82101      *    2020,0000,
82102      *    2020,0000/
82103      C
82104      END

```

```

83000      BLOCK DATA
83001      C
83002      C BLOCK DATA Subprogram 13
83003      C
83004      C BLOCK DATA 13 initializes the evaporative crankcase HC emissions.
83005      C
83006      C Common block array subscripts:
83007      C
83008      C CRAVAL(3,8,2) - CRAVAL ( IG, IV, IR )
83009      C MYGCRA(3,8,2) - MYGCRA ( IG, IV, IR )
83010      C
83011      C Common block dictionary:
83012      C
83013      C   Name      Type      Description
83014      C   -----
83015      C /CRACOM/:
83016      C
83017      C MAXCRA      I      maximum number of crankcase HC model year groups allowed
83018      C CRAVAL      R      crankcase HC emissions
83019      C MYGCRA      I      last year of crankcase HC model year groups
83020      C
83021      C Local array subscripts:
83022      C
83023      C CRAVLO(3,8) - CRAVLO ( IG, IV )
83024      C CRAVHI(3,8) - CRAVHI ( IG, IV )
83025      C ICRALO(3,8) - ICRALO ( IG, IV )
83026      C ICRAHI(3,8) - ICRAHI ( IG, IV )
83027      C
83028      C Local array dictionary:
83029      C
83030      C   Name      Type      Description
83031      C   -----
83032      C CRAVLO      R      crankcase HC emissions in high altitude region
83033      C CRAVHI      R      crankcase HC emissions in high altitude region
83034      C ICRALO      I      last year of crankcase HC model year groups
83035      C ICRAHI      I      last year of crankcase HC model year groups
83036      C
83037      C COMMON /CRACOM/ MAXCRA,CRAVAL(3,8,2),MYGCRA(3,8,2)
83038      C
83039      C DIMENSION
83040      C * CRAVLO(3,8),
83041      C * CRAVHI(3,8),
83042      C * ICRALO(3,8),
83043      C * ICRAHI(3,8)
83044      C
83045      C EQUIVALENCE
83046      C * (CRAVAL(1,1,1),CRAVLO(1,1)),
83047      C * (CRAVAL(1,1,2),CRAVHI(1,1)),
83048      C * (MYGCRA(1,1,1),ICRALO(1,1)),
83049      C * (MYGCRA(1,1,2),ICRAHI(1,1))
83050      C
83051      C DATA MAXCRA/3/
83052      C
83053      C Value of crankcase HC emissions
83054      C
83055      C Low altitude region
83056      C
83057      C DATA CRAVLO/

```

Appendix C: MOBILE3 Block Data 13

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```

83058      *    4.10,  0.80,  0.00,
83059      *    4.10,  0.80,  0.00,
83060      *    5.70,  0.00,  0.00,
83061      *    5.70,  0.00,  0.00,
83062      *    0.00,  0.00,  0.00,
83063      *    0.00,  0.00,  0.00,
83064      *    0.00,  0.00,  0.00,
83065      *    0.31,  0.00,  0.00/
83066      C
83067      C  High altitude region
83068      C
83069      DATA CRAVHI/
83070      *    5.29,  1.03,  0.00,
83071      *    5.29,  1.03,  0.00,
83072      *    7.35,  0.00,  0.00,
83073      *    7.35,  0.00,  0.00,
83074      *    0.00,  0.00,  0.00,
83075      *    0.00,  0.00,  0.00,
83076      *    0.00,  0.00,  0.00,
83077      *    0.40,  0.00,  0.00/
83078      C
83079      C  Last year of crankcase HC model year groups
83080      C
83081      C  Low altitude region
83082      C
83083      DATA ICRALO/
83084      *    1962,1967,2020,
83085      *    1962,1967,2020,
83086      *    1967,2020,0000,
83087      *    1967,2020,0000,
83088      *    2020,0000,0000,
83089      *    2020,0000,0000,
83090      *    2020,0000,0000,
83091      *    1977,2020,0000/
83092      C
83093      C  High altitude region
83094      C
83095      DATA ICRAHI/
83096      *    1962,1967,2020,
83097      *    1962,1967,2020,
83098      *    1967,2020,0000,
83099      *    1967,2020,0000,
83100      *    2020,0000,0000,
83101      *    2020,0000,0000,
83102      *    2020,0000,0000,
83103      *    1977,2020,0000/
83104      C
83105      END

```

```

84000      BLOCK DATA
84001      C
84002      C BLOCK DATA Subprogram 14
84003      C
84004      C BLOCK DATA 14 initializes miscellaneous integer-valued parameters.
84005      C
84006      C Common block array subscripts:
84007      C
84008      C IVPTRG(8) - IVPTRG ( IVG )
84009      C IVPTRT(8) - IVPTRT ( IVT )
84010      C IVPTRA(8) - IVPTRA ( IVA )
84011      C IVPTRB(8) - IVPTRB ( IVB )
84012      C
84013      C Common block dictionary:
84014      C
84015      C /IOUCOM/: a special format is utilized for the i/o unit number (#)
84016      C common block:
84017      C
84018      C Unit#  Usage  Description
84019      C -----
84020      C IOUAER  input  anti-tampering program effectiveness rates (when ATPFLG=2)
84021      C IOUIMD  input  user supplied I/M credits (when IMFLAG=2)
84022      C IOUGEN  input  user supplied general input data
84023      C IOUREP  output  formatted report file
84024      C IOUERR  output  error/warning messages file
84025      C IOUASK  output  prompting messages file
84026      C
84027      C Name  Type  Description
84028      C -----
84029      C /IVPCOM/:
84030      C IVPTRG  I    IV subgroup pointer into MYGSPD & GPACOF (see IVG subscript
84031      C definition)
84032      C IVPTRT  I    IV subgroup pointer into TTACOF (see IVT subscript
84033      C definition)
84034      C IVPTRA  I    IV subgroup pointer into SCFADJ, ISPGRP & ALHRET (see IVA
84035      C subscript definition)
84036      C IVPTRB  I    IV subgroup pointer into GPBCOF (see IVB subscript
84037      C definition)
84038      C
84039      C /NEWEQU/:
84040      C
84041      C MAXEQU  I    maximum number of emission rate equations possible for any
84042      C given combination of IR, IV and IP. MAXEQU = dimension of
84043      C the first subscript of arrays ZMLBEF, DRBEF, ZMLIDL, DRIDL
84044      C and MYGERQ.
84045      C
84046      C /SYSCOM/:
84047      C
84048      C MAXVEH  I    maximum number of vehicle types - additional categories
84049      C may be created by combining 2 or more of the base 8 types
84050      C (LDGT = LDGT1 + LDGT2)
84051      C MAXLTW  I    maximum number of vehicle types that can be affected by
84052      C ALUH's optional correction factors for a/c, extra load
84053      C and trailer towing ( = 3 = LDGV, LDGT1 & LDGT2 )
84054      C MAXPOL  I    maximum number of pollutants covered by MOBILE3
84055      C ( = 3 = HC, CO & NOx )
84056      C MAXREG  I    maximum number of regions allowed in MOBILE3
84057      C ( = 3 = low, high & mid )

```


Appendix C: MOBILE3 Block Data 14

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```

84058 C INITPR 1 switch: 1 = initial print pass => call OUTHDR; 0 = skip call
84059 C
84060 C /YEARS4/:
84061 C
84062 C IY1941 1 4-digit representation of year 1941
84063 C IY1960 1 4-digit representation of year 1960
84064 C IY2020 1 4-digit representation of year 2020
84065 C
84066 C Notes:
84067 C
84068 C The value of MAXEQU was increased from 15 to 20 as a result of the
84069 C new model year groups and ZML and DR rates for HDGV and HDDV.
84070 C
84071 C IOUUNF I/O unit parameter was removed. IOUAER was added & set equal to 3.
84072 C
84073 C
84074 C COMMON /IOUCOM/ IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK
84075 C COMMON /IVPCOM/ IVPTRG(8),IVPTRT(8),IVPTRA(8),IVPTRB(8)
84076 C COMMON /NEWEQU/ MAXEQU
84077 C COMMON /SYSCOM/ MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR
84078 C COMMON /YEARS4/ IY1941,IY1960,IY2020
84079 C
84080 C DATA IOUAER,IOUIMD,IOUGEN,IOUREP,IOUERR,IOUASK/3,4,5,3*6/
84081 C
84082 C DATA IVPTRG/1,2,3,0,4,5,0,6/
84083 C
84084 C DATA IVPTRT/1,2,3,0,4,5,0,6/
84085 C
84086 C DATA IVPTRA/1,2,3,0,0,0,0,4/
84087 C
84088 C DATA IVPTRB/0,0,0,1,2,3,4,0/
84089 C
84090 C DATA MAXEQU/20/
84091 C
84092 C DATA MAXVEH,MAXLTW,MAXPOL,MAXREG,INITPR/8,3,3,2,1/
84093 C
84094 C DATA IY1941,IY1960,IY2020/1941,1960,2020/
84095 C
84096 C END

```

```

85000      BLOCK DATA
85001      C
85002      C BLOCK DATA Subprogram 15
85003      C
85004      C BLOCK DATA 15 initializes the temperature correction factor coefficients.
85005      C
85006      C Common block array subscripts:
85007      C
85008      C TTACOF(2,3,9,3,6) - TTACOF ( MDLOHI, IB, IT, IP, IVT )
85009      C TT4COF(2,9,3)    - TT4COF ( MDLOHI, IT, IP )
85010      C TT7COF(2,3)      - TT7COF ( MDLOHI, IP )
85011      C
85012      C Common block dictionary:
85013      C
85014      C   Name   Type           Description
85015      C -----
85016      C /TCCOM1/:
85017      C
85018      C TTACOF   R   low/high temperature correction factor (cf) coefficients for
85019      C                      all light duty vehicles/trucks and MC
85020      C TT4COF   R   low/high temperature cf coefficients for HDGV
85021      C TT7COF   R   low/high temperature cf coefficients for HDDV
85022      C
85023      C Local array subscripts:
85024      C
85025      C TC1HC(2,3,9) - TC1HC ( MDLOHI, IB, IT )
85026      C TC1CO(2,3,9) - TC1CO ( MDLOHI, IB, IT )
85027      C TC1NOX(2,3,9) - TC1NOX ( MDLOHI, IB, IT )
85028      C TC2HC(2,3,9) - TC2HC ( MDLOHI, IB, IT )
85029      C TC2CO(2,3,9) - TC2CO ( MDLOHI, IB, IT )
85030      C TC2NOX(2,3,9) - TC2NOX ( MDLOHI, IB, IT )
85031      C TC3HC(2,3,9) - TC3HC ( MDLOHI, IB, IT )
85032      C TC3CO(2,3,9) - TC3CO ( MDLOHI, IB, IT )
85033      C TC3NOX(2,3,9) - TC3NOX ( MDLOHI, IB, IT )
85034      C TC4HC(2,9) - TC4HC ( MDLOHI, IT )
85035      C TC4CO(2,9) - TC4CO ( MDLOHI, IT )
85036      C TC4NOX(2,9) - TC4NOX ( MDLOHI, IT )
85037      C TC5HC(2,3,9) - TC5HC ( MDLOHI, IB, IT )
85038      C TC5CO(2,3,9) - TC5CO ( MDLOHI, IB, IT )
85039      C TC5NOX(2,3,9) - TC5NOX ( MDLOHI, IB, IT )
85040      C TC6HC(2,3,9) - TC6HC ( MDLOHI, IB, IT )
85041      C TC6CO(2,3,9) - TC6CO ( MDLOHI, IB, IT )
85042      C TC6NOX(2,3,9) - TC6NOX ( MDLOHI, IB, IT )
85043      C TC8HC(2,3,9) - TC8HC ( MDLOHI, IB, IT )
85044      C TC8CO(2,3,9) - TC8CO ( MDLOHI, IB, IT )
85045      C TC8NOX(2,3,9) - TC8NOX ( MDLOHI, IB, IT )
85046      C
85047      C Local array dictionary:
85048      C
85049      C   Name   Type           Description
85050      C -----
85051      C For the local arrays equivalenced to TTACOF:
85052      C
85053      C TC<IVT><IP> R low/high temperature cf coefficients by bag and model year
85054      C                      group for vehicle type IVT (1,2,3,5,6,8) and pollutant IP
85055      C                      (HC, CO, NOX)
85056      C
85057      C For the local arrays equivalenced to TT4COF:

```

Appendix C: MOBILE3 Block Data 15

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```

85058 C
85059 C TC4<IP> R low/high temperature cf coefficients by model year group
85060 C for pollutant IP (HC, CO, NOX)
85061 C
85062 C Notes:
85063 C
85064 C Temperature correction factor coefficients were updated for 1980+ years.
85065 C
85066 C COMMON /TCCOM1/ TTACOF (2,3,9,3,6),TT4COF (2,9,3),TT7COF (2,3)
85067 C
85068 C DIMENSION
85069 * TC1HC (2,3,9),TC1CO (2,3,9),TC1NOX (2,3,9),
85070 * TC2HC (2,3,9),TC2CO (2,3,9),TC2NOX (2,3,9),
85071 * TC3HC (2,3,9),TC3CO (2,3,9),TC3NOX (2,3,9),
85072 * TC4HC (2,9), TC4CO (2,9), TC4NOX (2,9),
85073 * TC5HC (2,3,9),TC5CO (2,3,9),TC5NOX (2,3,9),
85074 * TC6HC (2,3,9),TC6CO (2,3,9),TC6NOX (2,3,9),
85075 * TC8HC (2,3,9),TC8CO (2,3,9),TC8NOX (2,3,9)
85076 C
85077 C EQUIVALENCE
85078 * (TTACOF (1,1,1,1,1),TC1HC (1,1,1)),
85079 * (TTACOF (1,1,1,1,2),TC2HC (1,1,1)),
85080 * (TTACOF (1,1,1,1,3),TC3HC (1,1,1)),
85081 * (TTACOF (1,1,1,1,4),TC5HC (1,1,1)),
85082 * (TTACOF (1,1,1,1,5),TC6HC (1,1,1)),
85083 * (TTACOF (1,1,1,1,6),TC8HC (1,1,1)),
85084 * (TTACOF (1,1,1,2,1),TC1CO (1,1,1)),
85085 * (TTACOF (1,1,1,2,2),TC2CO (1,1,1)),
85086 * (TTACOF (1,1,1,2,3),TC3CO (1,1,1)),
85087 * (TTACOF (1,1,1,2,4),TC5CO (1,1,1)),
85088 * (TTACOF (1,1,1,2,5),TC6CO (1,1,1)),
85089 * (TTACOF (1,1,1,2,6),TC8CO (1,1,1)),
85090 * (TTACOF (1,1,1,3,1),TC1NOX (1,1,1)),
85091 * (TTACOF (1,1,1,3,2),TC2NOX (1,1,1)),
85092 * (TTACOF (1,1,1,3,3),TC3NOX (1,1,1)),
85093 * (TTACOF (1,1,1,3,4),TC5NOX (1,1,1)),
85094 * (TTACOF (1,1,1,3,5),TC6NOX (1,1,1)),
85095 * (TTACOF (1,1,1,3,6),TC8NOX (1,1,1))
85096 C
85097 C EQUIVALENCE
85098 * (TT4COF (1,1,1),TC4HC (1,1)),
85099 * (TT4COF (1,1,2),TC4CO (1,1)),
85100 * (TT4COF (1,1,3),TC4NOX (1,1))
85101 C
85102 C LDGV
85103 C HC
85104 C
85105 C Bag 1 Bag 2 Bag 3
85106 C DATA TC1HC/
85107 *-.02062300,-.01438100,-.00240320,.00132190,-.00100810,.00347990,
85108 *-.02446200,-.01255200,-.00320170,.00426670,-.00086884,.00758430,
85109 *-.02125500,-.01088800,-.00052755,-.00047925,.00093659,.00766660,
85110 *-.02142700,-.00661070,-.00039442,.00262880,.00497310,.01232000,
85111 *-.02351700,-.01409500,-.00880570,.02617900,-.00162220,.02429700,
85112 *-.02779300,-.01409500,-.01017700,.02617900,-.00826800,.02429700,
85113 *-.03388300,.01195900,-.01011300,-.12627E-4,-.00806500,.00787650,
85114 *.00000000,.00000000,.00000000,.00000000,.00000000,.00000000,
85115 *.00000000,.00000000,.00000000,.00000000,.00000000,.00000000/
85115 C CO

```



```

85116      DATA TC1CO/
85117      *-.01348700,-.01469100,.00157840,.00374620,.00110970,.01101400,
85118      *-.02112600,-.03876700,-.00152890,.00846850,.00157490,.02517900,
85119      *-.02084300,-.02116500,-.00599510,.02360300,.00182530,.02848300,
85120      *-.01909100,-.01314600,-.00042373,.02471700,.00579820,.02584800,
85121      *-.02483500,-.01961200,-.00883360,.04853700,-.00115530,.03143900,
85122      *-.02662800,-.01961200,-.01778300,.04853700,-.01087100,.03143900,
85123      *-.03599800,-.01259600,-.01881300,.01386100,-.01195100,.00969390,
85124      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000,
85125      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000/
85126      C NOX
85127      DATA TC1NOX/
85128      *-.00016897,.00388410,-.00892450,-.00873250,-.00725800,-.01083900,
85129      *-.00025074,-.00103890,-.00597910,-.00924660,-.00626900,-.01010800,
85130      * .00388550,-.01830100,-.00241560,-.01092500,-.00211880,-.01804200,
85131      *-.45504E-4,-.00714200,-.00125750,-.00879100,-.00053153,-.00754700,
85132      *-.00760440,-.02615300,-.00680450,-.01860300,-.00541980,-.02087800,
85133      *-.00301100,-.02615300,-.00671300,-.01860300,-.00453100,-.02087800,
85134      *-.00537100,-.03441600,-.00650500,-.03587100,-.00856500,-.02883000,
85135      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000,
85136      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000/
85137      C
85138      C LDGT1
85139      C HC
85140      DATA TC2HC/
85141      *-.02062300,-.01438100,-.00240320,.00132190,-.00100810,.00347990,
85142      *-.02446200,-.01255200,-.00320170,.00426670,-.00086884,.00758430,
85143      *-.02125500,-.01088800,-.00052755,-.00047925,.00093659,.00766660,
85144      *-.02142700,-.00661070,-.00039442,.00262880,.00497310,.01232000,
85145      *-.02351700,-.01409500,-.00880570,.02617900,-.00162220,.02429700,
85146      *-.02779300,-.01409500,-.01017700,.02617900,-.00826800,.02429700,
85147      *-.03388300,.01195900,-.01011300,-.12627E-4,-.00806500,.00787650,
85148      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000,
85149      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000/
85150      C CO
85151      DATA TC2CO/
85152      *-.01348700,-.01469100,.00157840,.00374620,.00110970,.01101400,
85153      *-.02112600,-.03876700,-.00152890,.00846850,.00157490,.02517900,
85154      *-.02084300,-.02116500,-.00599510,.02360300,.00182530,.02848300,
85155      *-.01909100,-.01314600,-.00042373,.02471700,.00579820,.02584800,
85156      *-.02483500,-.01961200,-.00883360,.04853700,-.00115530,.03143900,
85157      *-.02662800,-.01961200,-.01778300,.04853700,-.01087100,.03143900,
85158      *-.03599800,-.01259600,-.01881300,.01386100,-.01195100,.00969390,
85159      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000,
85160      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000/
85161      C NOX
85162      DATA TC2NOX/
85163      *-.00016897,.00388410,-.00892450,-.00873250,-.00725800,-.01083900,
85164      *-.00025074,-.00103890,-.00597910,-.00924660,-.00626900,-.01010800,
85165      * .00388550,-.01830100,-.00241560,-.01092500,-.00211880,-.01804200,
85166      *-.45504E-4,-.00714200,-.00125750,-.00879100,-.00053153,-.00754700,
85167      *-.00760440,-.02615300,-.00680450,-.01860300,-.00541980,-.02087800,
85168      *-.00301100,-.02615300,-.00671300,-.01860300,-.00453100,-.02087800,
85169      *-.00537100,-.03441600,-.00650500,-.03587100,-.00856500,-.02883000,
85170      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000,
85171      * .00000000,.00000000,.00000000,.00000000,.00000000,.00000000/
85172      C
85173      C LDGT2

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```

85174
85175      C  HC      DATA TC3HC/
85176      *- .02062300, -.01438100, -.00240320, .00132190, -.00100810, .00347990,
85177      *- .02446200, -.01255200, -.00320170, .00426670, -.00086884, .00758430,
85178      *- .02125500, -.01088800, -.00052755, -.00047925, .00093659, .00766660,
85179      *- .02142700, -.00661070, -.00039442, .00262880, .00497310, .01232000,
85180      *- .02351700, -.01409500, -.00880570, .02617900, -.00162220, .02429700,
85181      *- .02779300, -.01409500, -.01017700, .02617900, -.00826800, .02429700,
85182      *- .03388300, .01195900, -.01011300, -.12627E-4, -.00806500, .00787650,
85183      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85184      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85185
85186      C  CO      DATA TC3CO/
85187      *- .01348700, -.01469100, .00157840, .00374620, .00110970, .01101400,
85188      *- .02112600, -.03876700, -.00152890, .00846850, .00157490, .02517900,
85189      *- .02084300, -.02116500, -.00599510, .02360300, .00182530, .02848300,
85190      *- .01909100, -.01314600, -.00042373, .02471700, .00579820, .02584800,
85191      *- .02483500, -.01961200, -.00883360, .04853700, -.00115530, .03143900,
85192      *- .02662800, -.01961200, -.01778300, .04853700, -.01087100, .03143900,
85193      *- .03599800, -.01259600, -.01881300, .01386100, -.01195100, .00969390,
85194      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85195      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85196
85197      C  NOX     DATA TC3NOX/
85198      *- .00016897, .00388410, -.00892450, -.00873250, -.00725800, -.01083900,
85199      *- .00025074, -.00103890, -.00597910, -.00924660, -.00626900, -.01010800,
85200      * .00388550, -.01830100, -.00241560, -.01092500, -.00211880, -.01804200,
85201      *- .45504E-4, -.00714200, -.00125750, -.00879100, -.00053153, -.00754700,
85202      *- .00760440, -.02615300, -.00680450, -.01860300, -.00541980, -.02087800,
85203      *- .00301100, -.02615300, -.00671300, -.01860300, -.00453100, -.02087800,
85204      *- .00537100, -.03441600, -.00650500, -.03587100, -.00856500, -.02883000,
85205      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85206      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85207
85208      C
85209      C  HDGV
85210      C  HC      DATA TC4HC/
85211      *- .00589030, .00134580,
85212      *- .00738700, .00523170,
85213      *- .00497590, .00546510,
85214      *- .00285490, .01008200,
85215      *- .00741070, .02054600,
85216      *- .00928590, .00848420,
85217      * .00000000, .00000000,
85218      * .00000000, .00000000,
85219      * .00000000, .00000000/
85220
85221      C  CO      DATA TC4CO/
85222      *- .00205760, .0081720,
85223      *- .00455410, .02026800,
85224      *- .00428990, .02412700,
85225      *- .00130850, .02206100,
85226      *- .00771170, .02701900,
85227      *- .00601950, .00714570,
85228      * .00000000, .00000000,
85229      * .00000000, .00000000,
85230      * .00000000, .00000000/
85231      C  NOX

```

```

85232      DATA TC4NOX/
85233      *-.00643150,-.00839860,
85234      *-.00554560,-.00868800,
85235      *-.00139690,-.01807900,
85236      *-.00046352,-.00748890,
85237      *-.00575240,-.02159300,
85238      *-.00197330,-.02958400,
85239      * .00000000, .00000000,
85240      * .00000000, .00000000,
85241      * .00000000, .00000000/
85242      C
85243      C LDDV
85244      C HC
85245      DATA TC5HC/
85246      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85247      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85248      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85249      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85250      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85251      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85252      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85253      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85254      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85255      C CO
85256      DATA TC5CO/
85257      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85258      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85259      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85260      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85261      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85262      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85263      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85264      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85265      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85266      C NOX
85267      DATA TC5NOX/
85268      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85269      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85270      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85271      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85272      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85273      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85274      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85275      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85276      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85277      C
85278      C LDDT
85279      C HC
85280      DATA TC6HC/
85281      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85282      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85283      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85284      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85285      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85286      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85287      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85288      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85289      * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/

```

```

85290 C CO
85291 DATA TC6CO/
85292 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85293 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85294 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85295 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85296 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85297 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85298 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85299 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85300 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85301 C NOX
85302 DATA TC6NOX/
85303 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85304 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85305 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85306 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85307 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85308 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85309 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85310 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85311 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85312 C
85313 C HDDV
85314 DATA TT7COF/
85315 * 0.0000, 0.0000,
85316 * 0.0000, 0.0000,
85317 * 0.0000, 0.0000/
85318 C
85319 C MC
85320 C HC
85321 DATA TC8HC/
85322 * -.02062300, -.01438100, -.00240320, .00132190, -.00100810, .00347990,
85323 * -.02446200, -.01255200, -.00320170, .00426670, -.00086884, .00758430,
85324 * -.02125500, -.01088800, -.00052755, -.00047925, .00093659, .00766660,
85325 * -.02142700, -.00661070, -.00039442, .00262880, .00497310, .01232000,
85326 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85327 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85328 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85329 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85330 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85331 C CO
85332 DATA TC8CO/
85333 * -.01348700, -.01469100, .00157840, .00374620, .00110970, .01101400,
85334 * -.02112600, -.03876700, -.00152890, .00846850, .00157490, .02517900,
85335 * -.02084300, -.02116500, -.00599510, .02360300, .00182530, .02848300,
85336 * -.01909100, -.01314600, -.00042373, .02471700, .00579820, .02584800,
85337 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85338 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85339 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85340 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85341 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000/
85342 C NOX
85343 DATA TC8NOX/
85344 * -.00016897, .00388410, -.00892450, -.00873250, -.00725800, -.01083900,
85345 * -.00025074, -.00103890, -.00597910, -.00924660, -.00626900, -.01010800,
85346 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,
85347 * .00000000, .00000000, .00000000, .00000000, .00000000, .00000000,

```


Appendix C: MOBILE3 Block Data 15

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85348	*	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,
85349	*	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,
85350	*	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,
85351	*	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,
85352	*	.00000000,	.00000000,	.00000000,	.00000000,	.00000000,	.00000000/
85353	C						
85354	END						


```

86000      BLOCK DATA
86001      C
86002      C BLOCK DATA Subprogram 16
86003      C
86004      C BLOCK DATA 16 initializes the normalized bag fractions used for LDV/T & MC
86005      C and the speed correction factor coefficients used for HDV & LDDV/T.
86006      C
86007      C Common block array subscripts:
86008      C
86009      C GPACOF(8,13,3,6) - GPACOF ( IGPA, IGPTR, IP, IVG )
86010      C     IGPA = bag fraction coefficient index
86011      C           = 1,3,5,7 for ZMLs of bag 1, bag 2, bag 3, & FTP, respectively
86012      C           = 2,4,6,8 for DRs of bag 1, bag 2, bag 3, & FTP, respectively
86013      C
86014      C GPBCOF(3,3,3,4) - GPBCOF ( IGPB, IP, IGPTR, IVB )
86015      C     IGPB = second degree polynomial coefficient index
86016      C
86017      C Common block dictionary:
86018      C
86019      C      Name      Type      Description
86020      C      -----
86021      C /GPCCOM/:
86022      C
86023      C GPACOF      R      normalized bag fractions for LDV/T & MC
86024      C GPBCOF      R      speed correction factor coefficients for HDV & LDDV/T
86025      C
86026      C Local array subscripts:
86027      C -----
86028      C GPAC11(8,13) - GPAC11 ( IGPA, IGPTR )
86029      C GPAC12(8,13) - GPAC12 ( IGPA, IGPTR )
86030      C GPAC13(8,13) - GPAC13 ( IGPA, IGPTR )
86031      C GPAC21(8,13) - GPAC21 ( IGPA, IGPTR )
86032      C GPAC22(8,13) - GPAC22 ( IGPA, IGPTR )
86033      C GPAC23(8,13) - GPAC23 ( IGPA, IGPTR )
86034      C GPAC31(8,13) - GPAC31 ( IGPA, IGPTR )
86035      C GPAC32(8,13) - GPAC32 ( IGPA, IGPTR )
86036      C GPAC33(8,13) - GPAC33 ( IGPA, IGPTR )
86037      C GPAC51(8,13) - GPAC51 ( IGPA, IGPTR )
86038      C GPAC52(8,13) - GPAC52 ( IGPA, IGPTR )
86039      C GPAC53(8,13) - GPAC53 ( IGPA, IGPTR )
86040      C GPAC61(8,13) - GPAC61 ( IGPA, IGPTR )
86041      C GPAC62(8,13) - GPAC62 ( IGPA, IGPTR )
86042      C GPAC63(8,13) - GPAC63 ( IGPA, IGPTR )
86043      C GPAC81(8,13) - GPAC81 ( IGPA, IGPTR )
86044      C GPAC82(8,13) - GPAC82 ( IGPA, IGPTR )
86045      C GPAC83(8,13) - GPAC83 ( IGPA, IGPTR )
86046      C GPBCO4(3,3,3) - GPBCO4 ( IGPB, IP, IGPTR )
86047      C GPBCO5(3,3,3) - GPBCO5 ( IGPB, IP, IGPTR )
86048      C GPBCO6(3,3,3) - GPBCO6 ( IGPB, IP, IGPTR )
86049      C GPBCO7(3,3,3) - GPBCO7 ( IGPB, IP, IGPTR )
86050      C
86051      C Local array dictionary:
86052      C
86053      C      Name      Type      Description
86054      C      -----
86055      C GPAC<IVG><IP>      R      normalized bag fractions for vehicle type IVG and
86056      C                               pollutant IP (see subscript definitions for IVG & IP)
86057      C GPBCO<IVB>      R      speed correction factor coefficients for vehicle type

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Appendix C: MOBILE3 Block Data 16

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86058      C                      IVB (see IVB definition in subscript dictionary)
86059      C
86060      C Notes:
86061      C
86062      C Normalized bag fractions were updated for 1975+ years. The dimensions for
86063      C bag fractions were increased from 9 (MOBILE2) to 13.
86064      C
86065      C Speed correction factors were updated. The HDDV NOx speed coefficients
86066      C were zeroed out.
86067      C
86068      C      COMMON /GPCCOM/ GPACOF (8,13,3,6),GPBCOF (3,3,3,4)
86069      C
86070      C      DIMENSION
86071      C      * GPAC11 (8,13),GPAC12 (8,13),GPAC13 (8,13),
86072      C      * GPAC21 (8,13),GPAC22 (8,13),GPAC23 (8,13),
86073      C      * GPAC31 (8,13),GPAC32 (8,13),GPAC33 (8,13),
86074      C      * GPAC51 (8,13),GPAC52 (8,13),GPAC53 (8,13),
86075      C      * GPAC61 (8,13),GPAC62 (8,13),GPAC63 (8,13),
86076      C      * GPAC81 (8,13),GPAC82 (8,13),GPAC83 (8,13)
86077      C
86078      C      EQUIVALENCE
86079      C      * (GPACOF (1,1,1,1),GPAC11 (1,1)),
86080      C      * (GPACOF (1,1,2,1),GPAC12 (1,1)),
86081      C      * (GPACOF (1,1,3,1),GPAC13 (1,1)),
86082      C      * (GPACOF (1,1,1,2),GPAC21 (1,1)),
86083      C      * (GPACOF (1,1,2,2),GPAC22 (1,1)),
86084      C      * (GPACOF (1,1,3,2),GPAC23 (1,1)),
86085      C      * (GPACOF (1,1,1,3),GPAC31 (1,1)),
86086      C      * (GPACOF (1,1,2,3),GPAC32 (1,1)),
86087      C      * (GPACOF (1,1,3,3),GPAC33 (1,1)),
86088      C      * (GPACOF (1,1,1,4),GPAC51 (1,1)),
86089      C      * (GPACOF (1,1,2,4),GPAC52 (1,1)),
86090      C      * (GPACOF (1,1,3,4),GPAC53 (1,1)),
86091      C      * (GPACOF (1,1,1,5),GPAC61 (1,1)),
86092      C      * (GPACOF (1,1,2,5),GPAC62 (1,1)),
86093      C      * (GPACOF (1,1,3,5),GPAC63 (1,1)),
86094      C      * (GPACOF (1,1,1,6),GPAC81 (1,1)),
86095      C      * (GPACOF (1,1,2,6),GPAC82 (1,1)),
86096      C      * (GPACOF (1,1,3,6),GPAC83 (1,1))
86097      C
86098      C      DIMENSION
86099      C      * GPBCO4 (3,3,3),
86100      C      * GPBCO5 (3,3,3),
86101      C      * GPBCO6 (3,3,3),
86102      C      * GPBCO7 (3,3,3)
86103      C
86104      C      EQUIVALENCE
86105      C      * (GPBCOF (1,1,1,1),GPBCO4 (1,1,1)),
86106      C      * (GPBCOF (1,1,1,2),GPBCO5 (1,1,1)),
86107      C      * (GPBCOF (1,1,1,3),GPBCO6 (1,1,1)),
86108      C      * (GPBCOF (1,1,1,4),GPBCO7 (1,1,1))
86109      C
86110      C bag & FTP emissions normalized by zero mile FTP rate
86111      C
86112      C LDGV
86113      C HC
86114      C      Bag 1      Bag 2      Bag 3      FTP
86115      C      DATA GPAC11/

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86116	* 1.282, 0.025, 0.973, 0.028, 0.839, 0.019, 1.000, 0.025,
86117	* 1.345, 0.074, 0.946, 0.054, 0.842, 0.048, 1.000, 0.056,
86118	* 1.345, 0.178, 0.919, 0.118, 0.894, 0.093, 1.000, 0.124,
86119	* 1.398, 0.060, 0.885, 0.055, 0.919, 0.036, 1.000, 0.051,
86120	* 1.856, 0.345, 0.765, 0.233, 0.802, 0.196, 1.000, 0.246,
86121	* 2.200, 0.714, 0.571, 0.171, 0.914, 0.143, 1.000, 0.274,
86122	* 2.654, 0.960, 0.383, 0.375, 0.929, 0.310, 1.000, 0.478,
86123	* 2.609, 1.101, 0.387, 0.435, 0.957, 0.365, 1.000, 0.553,
86124	* 2.613, 1.097, 0.384, 0.443, 0.958, 0.367, 1.000, 0.557,
86125	* 2.603, 1.285, 0.372, 0.529, 0.989, 0.417, 1.000, 0.654,
86126	* 2.617, 1.173, 0.371, 0.510, 0.981, 0.404, 1.000, 0.618,
86127	* 2.634, 1.104, 0.368, 0.499, 0.973, 0.391, 1.000, 0.594,
86128	* 2.639, 1.051, 0.368, 0.489, 0.969, 0.385, 1.000, 0.577/
86129	C CO
86130	DATA GPAC12/
86131	* 1.277, 0.033, 1.017, 0.029, 0.758, 0.025, 1.000, 0.029,
86132	* 1.442, 0.071, 0.996, 0.042, 0.674, 0.033, 1.000, 0.046,
86133	* 1.553, 0.109, 0.933, 0.079, 0.711, 0.038, 1.000, 0.074,
86134	* 1.573, 0.054, 0.902, 0.079, 0.755, 0.029, 1.000, 0.060,
86135	* 1.792, 0.177, 0.882, 0.157, 0.628, 0.109, 1.000, 0.148,
86136	* 2.403, 0.278, 0.649, 0.061, 0.621, 0.076, 1.000, 0.110,
86137	* 3.724, 1.325, 0.000, 0.792, 0.853, 0.659, 1.000, 0.865,
86138	* 3.854, 2.041, 0.000, 1.152, 0.755, 1.010, 1.000, 1.296,
86139	* 3.865, 2.030, 0.000, 1.153, 0.746, 1.007, 1.000, 1.294,
86140	* 3.959, 2.285, 0.000, 1.351, 0.675, 1.163, 1.000, 1.492,
86141	* 3.946, 2.124, 0.000, 1.254, 0.686, 1.081, 1.000, 1.386,
86142	* 3.941, 2.009, 0.000, 1.186, 0.689, 1.014, 1.000, 1.308,
86143	* 3.935, 1.940, 0.000, 1.144, 0.694, 0.979, 1.000, 1.263/
86144	C NOX
86145	DATA GPAC13/
86146	* 1.121, 0.009, 0.785, 0.001, 1.319, -0.009, 1.000, 0.000,
86147	* 1.199, -0.004, 0.793, -0.002, 1.245, 0.006, 1.000, 0.000,
86148	* 1.262, 0.022, 0.770, 0.004, 1.242, 0.027, 1.000, 0.014,
86149	* 1.297, 0.012, 0.781, 0.004, 1.194, 0.016, 1.000, 0.009,
86150	* 1.371, 0.040, 0.766, 0.046, 1.166, 0.063, 1.000, 0.049,
86151	* 1.313, 0.047, 0.810, 0.034, 1.125, 0.054, 1.000, 0.042,
86152	* 1.752, 0.129, 0.737, 0.123, 0.935, 0.173, 1.000, 0.138,
86153	* 1.652, 0.121, 0.768, 0.115, 0.951, 0.162, 1.000, 0.129,
86154	* 1.725, 0.137, 0.728, 0.129, 0.973, 0.183, 1.000, 0.145,
86155	* 1.817, 0.167, 0.707, 0.148, 0.942, 0.219, 1.000, 0.172,
86156	* 1.818, 0.167, 0.707, 0.148, 0.942, 0.219, 1.000, 0.172,
86157	* 1.830, 0.169, 0.703, 0.149, 0.939, 0.222, 1.000, 0.173,
86158	* 1.830, 0.169, 0.704, 0.149, 0.939, 0.222, 1.000, 0.173/
86159	C
86160	C LDGT1
86161	C HC
86162	DATA GPAC21/
86163	* 1.282, 0.025, 0.973, 0.028, 0.839, 0.019, 1.000, 0.025,
86164	* 1.345, 0.074, 0.946, 0.054, 0.842, 0.048, 1.000, 0.056,
86165	* 1.345, 0.178, 0.919, 0.118, 0.894, 0.093, 1.000, 0.124,
86166	* 1.398, 0.060, 0.885, 0.055, 0.919, 0.036, 1.000, 0.051,
86167	* 1.860, 0.345, 0.766, 0.234, 0.804, 0.196, 1.000, 0.243,
86168	* 2.200, 0.714, 0.571, 0.171, 0.914, 0.143, 1.000, 0.286,
86169	* 2.634, 1.104, 0.368, 0.499, 0.973, 0.391, 1.000, 0.594,
86170	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86171	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86172	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86173	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,

86174	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86175	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86176	C CO
86177	DATA GPAC22/
86178	* 1.277, 0.033, 1.017, 0.029, 0.758, 0.025, 1.000, 0.029,
86179	* 1.442, 0.071, 0.996, 0.042, 0.674, 0.033, 1.000, 0.046,
86180	* 1.553, 0.109, 0.933, 0.079, 0.711, 0.038, 1.000, 0.074,
86181	* 1.573, 0.054, 0.902, 0.079, 0.755, 0.029, 1.000, 0.060,
86182	* 1.972, 0.176, 0.881, 0.157, 0.628, 0.109, 1.000, 0.139,
86183	* 2.438, 0.282, 0.658, 0.062, 0.621, 0.077, 1.000, 0.111,
86184	* 3.941, 2.009, 0.000, 1.186, 0.689, 1.014, 1.000, 1.308,
86185	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86186	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86187	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86188	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86189	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86190	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86191	C NOX
86192	DATA GPAC23/
86193	* 1.121, 0.009, 0.785, 0.001, 1.319, -0.009, 1.000, 0.000,
86194	* 1.199, -0.004, 0.793, -0.002, 1.245, 0.006, 1.000, 0.000,
86195	* 1.262, 0.022, 0.770, 0.004, 1.242, 0.027, 1.000, 0.014,
86196	* 1.299, 0.012, 0.783, 0.004, 1.197, 0.016, 1.000, 0.012,
86197	* 1.372, 0.040, 0.766, 0.046, 1.167, 0.063, 1.000, 0.051,
86198	* 1.830, 0.169, 0.703, 0.149, 0.939, 0.222, 1.000, 0.173,
86199	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86200	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86201	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86202	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86203	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86204	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86205	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86206	C
86207	C LDGT2
86208	C HC
86209	DATA GPAC31/
86210	* 1.282, 0.025, 0.973, 0.028, 0.839, 0.019, 1.000, 0.025,
86211	* 1.345, 0.074, 0.946, 0.054, 0.842, 0.048, 1.000, 0.056,
86212	* 1.398, 0.060, 0.885, 0.055, 0.919, 0.036, 1.000, 0.051,
86213	* 1.860, 0.345, 0.766, 0.234, 0.804, 0.196, 1.000, 0.243,
86214	* 2.200, 0.714, 0.571, 0.171, 0.914, 0.143, 1.000, 0.286,
86215	* 2.634, 1.104, 0.368, 0.499, 0.973, 0.391, 1.000, 0.594,
86216	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86217	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86218	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86219	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86220	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86221	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86222	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86223	C CO
86224	DATA GPAC32/
86225	* 1.277, 0.033, 1.017, 0.029, 0.758, 0.025, 1.000, 0.029,
86226	* 1.442, 0.071, 0.996, 0.042, 0.674, 0.033, 1.000, 0.046,
86227	* 1.573, 0.054, 0.902, 0.079, 0.755, 0.029, 1.000, 0.060,
86228	* 1.972, 0.176, 0.881, 0.157, 0.628, 0.109, 1.000, 0.139,
86229	* 2.438, 0.282, 0.658, 0.062, 0.621, 0.077, 1.000, 0.111,
86230	* 3.941, 2.009, 0.000, 1.186, 0.689, 1.014, 1.000, 1.308,
86231	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,

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86232	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86233	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86234	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86235	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86236	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86237	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86238	C NOX
86239	DATA GPAC33/
86240	* 1.121, 0.009, 0.785, 0.001, 1.319, -0.009, 1.000, 0.000,
86241	* 1.199, -0.004, 0.793, -0.002, 1.245, 0.006, 1.000, 0.000,
86242	* 1.262, 0.022, 0.770, 0.004, 1.242, 0.027, 1.000, 0.014,
86243	* 1.372, 0.040, 0.766, 0.046, 1.167, 0.063, 1.000, 0.051,
86244	* 1.830, 0.169, 0.703, 0.149, 0.939, 0.222, 1.000, 0.173,
86245	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86246	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86247	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86248	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86249	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86250	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86251	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86252	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86253	C
86254	C LDDV
86255	C HC
86256	DATA GPAC51/
86257	* 1.209, 0.071, 1.073, 0.056, 0.703, 0.064, 1.000, 0.061,
86258	* 1.209, 0.105, 1.073, 0.084, 0.703, 0.088, 1.000, 0.098,
86259	* 1.209, 0.105, 1.073, 0.084, 0.703, 0.088, 1.000, 0.098,
86260	* 1.209, 0.105, 1.073, 0.084, 0.703, 0.088, 1.000, 0.098,
86261	* 1.209, 0.105, 1.073, 0.084, 0.703, 0.088, 1.000, 0.098,
86262	* 1.345, 0.103, 0.966, 0.138, 0.793, 0.103, 1.000, 0.138,
86263	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86264	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86265	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86266	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86267	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86268	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86269	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86270	C CO
86271	DATA GPAC52/
86272	* 1.199, 0.060, 0.935, 0.042, 0.974, 0.051, 1.000, 0.048,
86273	* 1.199, 0.067, 0.935, 0.048, 0.974, 0.057, 1.000, 0.054,
86274	* 1.199, 0.067, 0.935, 0.048, 0.974, 0.057, 1.000, 0.054,
86275	* 1.199, 0.067, 0.935, 0.048, 0.974, 0.057, 1.000, 0.054,
86276	* 1.199, 0.067, 0.935, 0.048, 0.974, 0.057, 1.000, 0.054,
86277	* 1.157, 0.061, 1.000, 0.026, 0.904, 0.035, 1.000, 0.035,
86278	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86279	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86280	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86281	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86282	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86283	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86284	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86285	C NOX
86286	DATA GPAC53/
86287	* 1.068, 0.026, 0.981, 0.029, 0.985, 0.026, 1.000, 0.028,
86288	* 1.068, 0.031, 0.981, 0.033, 0.985, 0.030, 1.000, 0.032,
86289	* 1.068, 0.031, 0.981, 0.033, 0.985, 0.030, 1.000, 0.032,

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86290	* 1.068, 0.031, 0.981, 0.033, 0.985, 0.030, 1.000, 0.032,
86291	* 1.068, 0.031, 0.981, 0.033, 0.985, 0.030, 1.000, 0.032,
86292	* 0.969, 0.031, 1.062, 0.047, 0.906, 0.031, 1.000, 0.039,
86293	* 0.969, 0.031, 1.062, 0.047, 0.906, 0.031, 1.000, 0.039,
86294	* 0.969, 0.031, 1.062, 0.047, 0.906, 0.031, 1.000, 0.039,
86295	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86296	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86297	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86298	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86299	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86300	C
86301	C LDDT
86302	C HC
86303	DATA GPAC61/
86304	* 1.209, 0.112, 1.073, 0.091, 0.703, 0.093, 1.000, 0.096,
86305	* 1.209, 0.110, 1.073, 0.089, 0.703, 0.092, 1.000, 0.094,
86306	* 1.209, 0.110, 1.073, 0.089, 0.703, 0.092, 1.000, 0.094,
86307	* 1.209, 0.115, 1.073, 0.093, 0.703, 0.095, 1.000, 0.098,
86308	* 1.209, 0.090, 1.073, 0.072, 0.703, 0.077, 1.000, 0.077,
86309	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86310	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86311	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86312	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86313	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86314	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86315	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86316	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86317	C CO
86318	DATA GPAC62/
86319	* 1.199, 0.062, 0.935, 0.044, 0.974, 0.053, 1.000, 0.050,
86320	* 1.199, 0.060, 0.935, 0.043, 0.974, 0.051, 1.000, 0.049,
86321	* 1.199, 0.057, 0.935, 0.040, 0.974, 0.048, 1.000, 0.046,
86322	* 1.199, 0.057, 0.935, 0.040, 0.974, 0.048, 1.000, 0.046,
86323	* 1.199, 0.049, 0.935, 0.034, 0.974, 0.042, 1.000, 0.039,
86324	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86325	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86326	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86327	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86328	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86329	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86330	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86331	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86332	C NOX
86333	DATA GPAC63/
86334	* 1.068, 0.033, 0.981, 0.036, 0.985, 0.032, 1.000, 0.034,
86335	* 1.068, 0.033, 0.981, 0.035, 0.985, 0.032, 1.000, 0.034,
86336	* 1.068, 0.036, 0.981, 0.038, 0.985, 0.035, 1.000, 0.037,
86337	* 1.068, 0.071, 0.981, 0.072, 0.985, 0.068, 1.000, 0.071,
86338	* 1.068, 0.040, 0.981, 0.042, 0.985, 0.038, 1.000, 0.040,
86339	* 1.068, 0.071, 0.981, 0.072, 0.985, 0.068, 1.000, 0.071,
86340	* 1.068, 0.040, 0.981, 0.042, 0.985, 0.038, 1.000, 0.040,
86341	* 1.068, 0.054, 0.981, 0.055, 0.985, 0.052, 1.000, 0.054,
86342	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86343	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86344	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86345	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86346	* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86347	C

86348	C	MC	
86349	C	HC	
86350			DATA GPAC81/
86351			* 1.282, 0.025, 0.973, 0.028, 0.839, 0.019, 1.000, 0.025,
86352			* 1.345, 0.074, 0.946, 0.054, 0.842, 0.048, 1.000, 0.056,
86353			* 1.345, 0.178, 0.919, 0.118, 0.894, 0.093, 1.000, 0.124,
86354			* 1.398, 0.060, 0.885, 0.055, 0.919, 0.036, 1.000, 0.051,
86355			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86356			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86357			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86358			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86359			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86360			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86361			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86362			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86363			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86364	C	CO	
86365			DATA GPAC82/
86366			* 1.277, 0.033, 1.017, 0.029, 0.758, 0.025, 1.000, 0.029,
86367			* 1.442, 0.071, 0.996, 0.042, 0.674, 0.033, 1.000, 0.046,
86368			* 1.553, 0.109, 0.933, 0.079, 0.711, 0.038, 1.000, 0.074,
86369			* 1.573, 0.054, 0.902, 0.079, 0.755, 0.029, 1.000, 0.060,
86370			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86371			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86372			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86373			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86374			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86375			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86376			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86377			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86378			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86379	C	NOX	
86380			DATA GPAC83/
86381			* 1.121, 0.009, 0.785, 0.001, 1.319, -0.009, 1.000, 0.000,
86382			* 1.199, -0.004, 0.793, -0.002, 1.245, 0.006, 1.000, 0.000,
86383			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86384			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86385			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86386			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86387			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86388			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86389			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86390			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86391			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86392			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
86393			* 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000/
86394	C		
86395	C		Speed correction factor coefficients: heavy duty and diesel
86396	C		
86397	C	HDGV	
86398			DATA GPBC04/
86399			* 1.608, -.097, .00083,
86400			* 1.520, -.098, .00110,
86401			* .824, .0088, .00000,
86402			* 1.608, -.097, .00083,
86403			* 1.520, -.098, .00110,
86404			* .824, .0088, .00000,
86405			* 1.608, -.097, .00083,

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```

86406      * 1.520, -.098, .00110,
86407      * .824, .0088, .0000/
86408      C
86409      C LDDV
86410          DATA GPBC05/
86411      * .9090, -.055, .00044,
86412      * 1.3752, -.088, .00091,
86413      * .6680, -.048, .00071,
86414      * .9090, -.055, .00044,
86415      * 1.3752, -.088, .00091,
86416      * .6680, -.048, .00071,
86417      * .9090, -.055, .00044,
86418      * 1.3752, -.088, .00091,
86419      * .6680, -.048, .00071/
86420      C
86421      C LDDT
86422          DATA GPBC06/
86423      * .9090, -.055, .00044,
86424      * 1.3752, -.088, .00091,
86425      * .6680, -.048, .00071,
86426      * .9090, -.055, .00044,
86427      * 1.3752, -.088, .00091,
86428      * .6680, -.048, .00071,
86429      * .9090, -.055, .00044,
86430      * 1.3752, -.088, .00091,
86431      * .6680, -.048, .00071/
86432      C
86433      C HDDV
86434          DATA GPBC07/
86435      * .9240, -.0550, .00044,
86436      * 1.3960, -.0880, .00091,
86437      * .6760, -.0480, .00071,
86438      * .9240, -.0550, .00044,
86439      * 1.3960, -.0880, .00091,
86440      * .6760, -.0480, .00071,
86441      * .9240, -.0550, .00044,
86442      * 1.3960, -.0880, .00091,
86443      * .6760, -.0480, .00071/
86444      C
86445      END

```



```

87000      BLOCK DATA
87001      C
87002      C BLOCK DATA Subprogram 17
87003      C
87004      C BLOCK DATA 17 defines the last years of the model year groups used for
87005      C indexing GPBCOF and GPACOF.
87006      C
87007      C Common block array subscripts:
87008      C
87009      C MYGPBA(13,3,2,8) - MYGPBA ( IG, IP, IR, IV )
87010      C
87011      C Common block dictionary:
87012      C
87013      C   Name      Type      Description
87014      C   -----
87015      C /PTRCOM/:
87016      C
87017      C MAXIGP      R      maximum number of model year groups allowed
87018      C MYGPBA      I      last year of model year groups for GPBCOF and GPACOF
87019      C
87020      C Local array subscripts:
87021      C
87022      C IGPYR1(13,3,2) - IGPYR1( IG, IP, IR )
87023      C IGPYR2(13,3,2) - IGPYR2( IG, IP, IR )
87024      C IGPYR3(13,3,2) - IGPYR3( IG, IP, IR )
87025      C IGPYR4(13,3,2) - IGPYR4( IG, IP, IR )
87026      C IGPYR5(13,3,2) - IGPYR5( IG, IP, IR )
87027      C IGPYR6(13,3,2) - IGPYR6( IG, IP, IR )
87028      C IGPYR7(13,3,2) - IGPYR7( IG, IP, IR )
87029      C IGPYR8(13,3,2) - IGPYR8( IG, IP, IR )
87030      C
87031      C Local array dictionary:
87032      C
87033      C   Name      Type      Description
87034      C   -----
87035      C IGPYR1      I      the last year of the LDGV model year group
87036      C IGPYR2      I      the last year of the LDGT1 model year group
87037      C IGPYR3      I      the last year of the LDGT2 model year group
87038      C IGPYR4      I      the last year of the HDGV model year group
87039      C IGPYR5      I      the last year of the LDDV model year group
87040      C IGPYR6      I      the last year of the LDDT model year group
87041      C IGPYR7      I      the last year of the HDDV model year group
87042      C IGPYR8      I      the last year of the MC model year group
87043      C
87044      C Notes:
87045      C
87046      C New model year groups were installed.
87047      C
87048      C The dimensions were increased from 9 (in MOBILE2) to 13.
87049      C
87050      COMMON /PTRCOM/ MAXIGP,MYGPBA(13,3,2,8)
87051      C
87052      DIMENSION
87053      * IGPYR1(13,3,2),
87054      * IGPYR2(13,3,2),
87055      * IGPYR3(13,3,2),
87056      * IGPYR4(13,3,2),
87057      * IGPYR5(13,3,2),

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87058      *   IGPYR6 (13,3,2) ,
87059      *   IGPYR7 (13,3,2) ,
87060      *   IGPYR8 (13,3,2)
87061      C
87062      EQUIVALENCE
87063      *   (MYGPBA (1,1,1,1) , IGPYR1 (1,1,1)) ,
87064      *   (MYGPBA (1,1,1,2) , IGPYR2 (1,1,1)) ,
87065      *   (MYGPBA (1,1,1,3) , IGPYR3 (1,1,1)) ,
87066      *   (MYGPBA (1,1,1,4) , IGPYR4 (1,1,1)) ,
87067      *   (MYGPBA (1,1,1,5) , IGPYR5 (1,1,1)) ,
87068      *   (MYGPBA (1,1,1,6) , IGPYR6 (1,1,1)) ,
87069      *   (MYGPBA (1,1,1,7) , IGPYR7 (1,1,1)) ,
87070      *   (MYGPBA (1,1,1,8) , IGPYR8 (1,1,1))
87071      C
87072      DATA MAXIGP/13/
87073      C
87074      C Last year of model year groups for normalized bag fractions
87075      C
87076      DATA IGPYR1/
87077      C Low altitude region
87078      * 1967,1969,1971,1974,1979,1980,1981,1982,1983,1984,1986,1989,2020,
87079      * 1967,1969,1971,1974,1979,1980,1981,1982,1983,1984,1986,1989,2020,
87080      * 1967,1972,1974,1976,1979,1980,1981,1982,1983,1984,1986,1989,2020,
87081      C High altitude region
87082      * 1967,1969,1971,1974,1979,1980,1981,1982,1983,1984,1986,1989,2020,
87083      * 1967,1969,1971,1974,1979,1980,1981,1982,1983,1984,1986,1989,2020,
87084      * 1967,1972,1974,1976,1979,1980,1981,1982,1983,1984,1986,1989,2020/
87085      C
87086      C
87087      DATA IGPYR2/
87088      C Low altitude region
87089      * 1967,1969,1971,1974,1983,1986,2020,0000,0000,0000,0000,0000,0000,
87090      * 1967,1969,1971,1974,1983,1986,2020,0000,0000,0000,0000,0000,0000,
87091      * 1967,1972,1974,1978,1986,2020,0000,0000,0000,0000,0000,0000,0000,
87092      C High altitude region
87093      * 1967,1969,1971,1974,1983,1986,2020,0000,0000,0000,0000,0000,0000,
87094      * 1967,1969,1971,1974,1983,1986,2020,0000,0000,0000,0000,0000,0000,
87095      * 1967,1972,1974,1978,1986,2020,0000,0000,0000,0000,0000,0000,0000/
87096      C
87097      C
87098      DATA IGPYR3/
87099      C Low altitude region
87100      * 1969,1973,1978,1983,1986,2020,0000,0000,0000,0000,0000,0000,0000,
87101      * 1969,1973,1978,1983,1986,2020,0000,0000,0000,0000,0000,0000,0000,
87102      * 1969,1973,1978,1986,2020,0000,0000,0000,0000,0000,0000,0000,0000,
87103      C High altitude region
87104      * 1969,1973,1978,1983,1986,2020,0000,0000,0000,0000,0000,0000,0000,
87105      * 1969,1973,1978,1983,1986,2020,0000,0000,0000,0000,0000,0000,0000,
87106      * 1969,1973,1978,1986,2020,0000,0000,0000,0000,0000,0000,0000,0000/
87107      C
87108      C
87109      DATA IGPYR4/
87110      C Low altitude region
87111      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,0000,0000,0000,0000,
87112      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,0000,0000,0000,0000,
87113      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,0000,0000,0000,0000,
87114      C High altitude region
87115      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,0000,0000,0000,0000,

```

Appendix C: MOBILE3 Block Data 17

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[illegible]


```

88000      BLOCK DATA
88001      C
88002      C BLOCK DATA Subprogram 18
88003      C
88004      C BLOCK DATA 18 defines the last years of the model year groups used for
88005      C speed correction factor (scf) coefficients.
88006      C
88007      C Common block array subscripts:
88008      C
88009      C MYGSPD(21,2,3) - MYGSPD ( IG, IR, IV )
88010      C MYGSMC(21,2,3) - MYGSMC ( IG, IR, IP )
88011      C
88012      C Common block dictionary:
88013      C
88014      C   Name      Type      Description
88015      C   -----
88016      C /ISPCOM/:
88017      C
88018      C MYGSPD   I      last year of scf model year groups for LDGV, LDGT1 & LDGT2
88019      C MYGSMC   I      last year of scf model year groups for MC
88020      C
88021      C Local array subscripts:
88022      C
88023      C ISPDY1(21,2) - ISPDY1( IG, IR )
88024      C ISPDY2(21,2) - ISPDY2( IG, IR )
88025      C ISPDY3(21,2) - ISPDY3( IG, IR )
88026      C
88027      C Local array dictionary:
88028      C
88029      C   Name      Type      Description
88030      C   -----
88031      C ISPDY1   I      the last year of LDGV scf model year group
88032      C ISPDY2   I      the last year of LDGT1 scf model year group
88033      C ISPDY3   I      the last year of LDGT2 scf model year group
88034      C
88035      C
88036      C COMMON /ISPCOM/ MYGSPD(21,2,3),MYGSMC(21,2,3)
88037      C
88038      C DIMENSION
88039      C * ISPDY1(21,2),
88040      C * ISPDY2(21,2),
88041      C * ISPDY3(21,2)
88042      C
88043      C EQUIVALENCE
88044      C *(MYGSPD(1,1,1),ISPDY1(1,1)),
88045      C *(MYGSPD(1,1,2),ISPDY2(1,1)),
88046      C *(MYGSPD(1,1,3),ISPDY3(1,1))
88047      C
88048      C Last year of model year groups for speed correction factor coefficients
88049      C LDGV
88050      C DATA ISPDY1/
88051      C Low altitude region
88052      C * 0000,1967,0000,1968,1969,1970,1971,0000,0000,0000,
88053      C * 0000,0000,0000,1972,0000,0000,1974,1977,1979,1980,2020,
88054      C High altitude region
88055      C * 1967,0000,0000,0000,0000,0000,0000,1968,1969,1970,
88056      C * 1971,1972,0000,0000,1974,0000,0000,2020,0000,0000,0000/
88057      C

```


Appendix C: MOBILE3 Block Data 18

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```

88058 C LDGT1
88059 DATA ISPDY2/
88060 C Low altitude region
88061 * 0000,1967,0000,1968,1969,1970,1971,0000,0000,0000,
88062 * 0000,0000,0000,1972,0000,0000,1974,1978,1983,1986,2020,
88063 C High altitude region
88064 * 1967,0000,0000,0000,0000,0000,0000,1968,1969,1970,
88065 * 1971,1972,0000,0000,1974,0000,0000,2020,0000,0000,0000/
88066 C
88067 C LDGT2
88068 DATA ISPDY3/
88069 C Low altitude region
88070 * 0000,1969,0000,0000,1973,0000,0000,0000,0000,0000,
88071 * 0000,0000,0000,0000,0000,0000,1978,0000,1983,1986,2020,
88072 C High altitude region
88073 * 1969,0000,0000,0000,0000,0000,0000,0000,0000,0000,
88074 * 0000,1973,0000,0000,1978,0000,0000,2020,0000,0000,0000/
88075 C
88076 C MC
88077 DATA MYGSMC/
88078 C HC
88079 C Low altitude region
88080 * 0000,1977,0000,0000,1979,0000,2020,0000,0000,0000,
88081 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
88082 C High altitude region
88083 * 1977,0000,0000,0000,0000,0000,0000,0000,1979,0000,
88084 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,
88085 C CO
88086 C Low altitude region
88087 * 0000,1977,0000,0000,1979,0000,2020,0000,0000,0000,
88088 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
88089 C High altitude region
88090 * 1977,0000,0000,0000,0000,0000,0000,0000,1979,0000,
88091 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,
88092 C NOX
88093 C Low altitude region
88094 * 0000,1977,0000,0000,0000,0000,0000,0000,0000,0000,
88095 * 0000,0000,0000,2020,0000,0000,0000,0000,0000,0000,
88096 C High altitude region
88097 * 1977,0000,0000,0000,0000,0000,0000,0000,0000,0000,
88098 * 0000,2020,0000,0000,0000,0000,0000,0000,0000,0000/
88099 C
88100 END

```

```

89000      BLOCK DATA
89001      C
89002      C BLOCK DATA Subprogram 19
89003      C
89004      C BLOCK DATA initializes the correction factors for air conditioning
89005      C usage (a/c or AC), extra load (XL), and trailer towing (TW).
89006      C
89007      C Common block array subscripts:
89008      C
89009      C ACEQIP(8,3,2) - ACEQIP ( IGEPTR, IVP, IR )
89010      C ACCF(2,3,2,3,2) - ACCF ( IAC, IP, IGUPTR, IVP, IR )
89011      C XLCF(3,6,3,2) - XLCF ( IP, IGLPTR, IVP, IR )
89012      C TWCF(3,6,3,2) - TWCF ( IP, IGTPT, IVP, IR )
89013      C IAC = AC correction equation coefficient number (2 terms per equation)
89014      C
89015      C Common block dictionary:
89016      C
89017      C      Name      Type      Description
89018      C      -----
89019      C /ALUHAC/:
89020      C
89021      C ACEQIP      R      fractions of LDGV & LDGT1/2 vehicles equipped with a/c
89022      C ACCF        R      a/c correction factors
89023      C
89024      C /ALUHLT/:
89025      C
89026      C XLCF          R      extra load correction factors
89027      C TWCF          R      trailer towing correction factors
89028      C
89029      C Local array subscripts:
89030      C
89031      C TWCFLO(3,6,3) - TWCFLO ( IP, IGLPTR, IVP )
89032      C TWCFHI(3,6,3) - TWCFHI ( IP, IGLPTR, IVP )
89033      C XLCFLO(3,6,3) - XLCFLO ( IP, IGLPTR, IVP )
89034      C XLCFHI(3,6,3) - XLCFHI ( IP, IGLPTR, IVP )
89035      C
89036      C Local array dictionary:
89037      C
89038      C      Name      Type      Description
89039      C      -----
89040      C TWCFLO      R      trailer towing correction factors for low altitude region
89041      C TWCFHI      R      trailer towing correction factors for high altitude region
89042      C XLCFLO      R      extra load correction factors for low altitude region
89043      C XLCFHI      R      extra load correction factors for high altitude region
89044      C
89045      C      COMMON /ALUHAC/ ACEQIP(8,3,2),ACCF(2,3,2,3,2)
89046      C      COMMON /ALUHLT/ XLCF(3,6,3,2),TWCF(3,6,3,2)
89047      C
89048      C      DIMENSION TWCFLO(3,6,3),TWCFHI(3,6,3)
89049      C      DIMENSION XLCFLO(3,6,3),XLCFHI(3,6,3)
89050      C
89051      C      EQUIVALENCE
89052      C      * (TWCF(1,1,1,1),TWCFLO(1,1,1)),
89053      C      * (TWCF(1,1,1,2),TWCFHI(1,1,1)),
89054      C      * (XLCF(1,1,1,1),XLCFLO(1,1,1)),
89055      C      * (XLCF(1,1,1,2),XLCFHI(1,1,1))
89056      C
89057      C Fraction of vehicles equipped with a/c

```

```

89058      DATA ACEQIP/
89059      C Low altitude region
89060      * .07, .14, .24, .37, .51, .61, .72, 0.0,
89061      * .32, .52, .39, 0.0, 0.0, 0.0, 0.0, 0.0,
89062      * .32, .52, .39, 0.0, 0.0, 0.0, 0.0, 0.0,
89063      C High altitude region
89064      * .07, .14, .24, .37, .51, .61, .72, 0.0,
89065      * .32, .52, .39, 0.0, 0.0, 0.0, 0.0, 0.0,
89066      * .32, .52, .39, 0.0, 0.0, 0.0, 0.0, 0.0/
89067      C
89068      C A/c correction factors
89069      DATA ACCF/
89070      C Low altitude region
89071      * 1.0230E+0, 0.3344E-2, 1.2020E+0, 0.1808E-2, 1.2990E+0, 0.5643E-4,
89072      * 1.0000E+0, 0.3512E-2, 1.1300E+0, 0.1528E-2, 1.2210E+0, 0.4262E-3,
89073      * 1.0230E+0, 0.3344E-2, 1.2020E+0, 0.1808E-2, 1.2990E+0, 0.5643E-4,
89074      * 1.0000E+0, 0.3512E-2, 1.1300E+0, 0.1528E-2, 1.2210E+0, 0.4262E-3,
89075      * 1.0230E+0, 0.3344E-2, 1.2020E+0, 0.1808E-2, 1.2990E+0, 0.5643E-4,
89076      * 1.0000E+0, 0.3512E-2, 1.1300E+0, 0.1528E-2, 1.2210E+0, 0.4262E-3,
89077      C High altitude region
89078      * 1.0230E+0, 0.3344E-2, 1.2020E+0, 0.1808E-2, 1.2990E+0, 0.5643E-4,
89079      * 1.0000E+0, 0.3512E-2, 1.1300E+0, 0.1528E-2, 1.2210E+0, 0.4262E-3,
89080      * 1.0230E+0, 0.3344E-2, 1.2020E+0, 0.1808E-2, 1.2990E+0, 0.5643E-4,
89081      * 1.0000E+0, 0.3512E-2, 1.1300E+0, 0.1528E-2, 1.2210E+0, 0.4262E-3,
89082      * 1.0230E+0, 0.3344E-2, 1.2020E+0, 0.1808E-2, 1.2990E+0, 0.5643E-4,
89083      * 1.0000E+0, 0.3512E-2, 1.1300E+0, 0.1528E-2, 1.2210E+0, 0.4262E-3/
89084      C
89085      C Extra load correction factors
89086      C HC CO NOX
89087      C Low altitude region
89088      DATA XLCFLO/
89089      C LDGV
89090      * 1.0786, 1.2765, 0.9535,
89091      * 1.0495, 1.1384, 1.0313,
89092      * 1.0852, 1.2478, 1.0313,
89093      * 1.0556, 1.1347, 1.0313,
89094      * 1.0556, 1.1347, 1.0753,
89095      * 1.0455, 1.3058, 1.0719,
89096      C LDGT1
89097      * 1.0786, 1.2765, 0.9535,
89098      * 1.0495, 1.1384, 1.0313,
89099      * 1.0852, 1.2478, 1.0313,
89100      * 1.0556, 1.1347, 1.0313,
89101      * 1.0556, 1.1347, 1.0753,
89102      * 1.0455, 1.3058, 1.0719,
89103      C LDGT2
89104      * 1.0786, 1.2765, 0.9535,
89105      * 1.0495, 1.1384, 1.0313,
89106      * 1.0556, 1.1347, 1.0753,
89107      * 1.0455, 1.3058, 1.0719,
89108      * 0.0000, 0.0000, 0.0000,
89109      * 0.0000, 0.0000, 0.0000/
89110      C
89111      C High altitude region
89112      DATA XLCFHI/
89113      C LDGV
89114      * 1.0786, 1.2765, 0.9535,
89115      * 1.0495, 1.1384, 1.0313,

```

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89116	*	1.0852, 1.2478, 1.0313,
89117	*	1.0556, 1.1347, 1.0313,
89118	*	1.0556, 1.1347, 1.0753,
89119	*	1.0455, 1.3058, 1.0719,
89120	C LDGT1	
89121	*	1.0786, 1.2765, 0.9535,
89122	*	1.0495, 1.1384, 1.0313,
89123	*	1.0852, 1.2478, 1.0313,
89124	*	1.0556, 1.1347, 1.0313,
89125	*	1.0556, 1.1347, 1.0753,
89126	*	1.0455, 1.3058, 1.0719,
89127	C LDGT2	
89128	*	1.0786, 1.2765, 0.9535,
89129	*	1.0495, 1.1384, 1.0313,
89130	*	1.0556, 1.1347, 1.0753,
89131	*	1.0455, 1.3058, 1.0719,
89132	*	0.0000, 0.0000, 0.0000,
89133	*	0.0000, 0.0000, 0.0000/
89134	C	
89135	C	Trailer towing correction factors
89136	C	HC CO NOX
89137	C	Low altitude region
89138		DATA TWCFL0/
89139	C LDGV	
89140	*	1.2614, 1.9327, 1.1184,
89141	*	1.2762, 1.8940, 1.1384,
89142	*	1.4598, 2.4753, 1.1384,
89143	*	1.7288, 2.1414, 1.1384,
89144	*	1.7288, 2.1414, 1.2170,
89145	*	1.5909, 3.9722, 1.3875,
89146	C LDGT1	
89147	*	1.2614, 1.9327, 1.1184,
89148	*	1.2762, 1.8940, 1.1384,
89149	*	1.4598, 2.4753, 1.1384,
89150	*	1.7288, 2.1414, 1.1384,
89151	*	1.7288, 2.1414, 1.2170,
89152	*	1.5909, 3.9722, 1.3875,
89153	C LDGT2	
89154	*	1.2614, 1.9327, 1.1184,
89155	*	1.2762, 1.8940, 1.1384,
89156	*	1.7288, 2.1414, 1.2170,
89157	*	1.5909, 3.9722, 1.3875,
89158	*	0.0000, 0.0000, 0.0000,
89159	*	0.0000, 0.0000, 0.0000/
89160	C	
89161	C	High altitude region
89162		DATA TWCFL0/
89163	C LDGV	
89164	*	1.2614, 1.9327, 1.1184,
89165	*	1.2762, 1.8940, 1.1384,
89166	*	1.4598, 2.4753, 1.1384,
89167	*	1.7288, 2.1414, 1.1384,
89168	*	1.7288, 2.1414, 1.2170,
89169	*	1.5909, 3.9722, 1.3875,
89170	C LDGT1	
89171	*	1.2614, 1.9327, 1.1184,
89172	*	1.2762, 1.8940, 1.1384,
89173	*	1.4598, 2.4753, 1.1384,

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89174	*	1.7288, 2.1414, 1.1384,
89175	*	1.7288, 2.1414, 1.2170,
89176	*	1.5909, 3.9722, 1.3875,
89177	C LDGT2	
89178	*	1.2614, 1.9327, 1.1184,
89179	*	1.2762, 1.8940, 1.1384,
89180	*	1.7288, 2.1414, 1.2170,
89181	*	1.5909, 3.9722, 1.3875,
89182	*	0.0000, 0.0000, 0.0000,
89183	*	0.0000, 0.0000, 0.0000/
89184	C	
89185	END	

```

90000      BLOCK DATA
90001      C
90002      C BLOCK DATA Subprogram 20
90003      C
90004      C BLOCK DATA 20 defines the last years of the model year groups used for
90005      C the a/c, XL, & TW correction factors.
90006      C
90007      C Common block array subscripts:
90008      C
90009      C MYGACE (8,3,2) - MYGACE ( IG, IVP, IR )
90010      C MYGACC (2,3,2) - MYGACC ( IG, IVP, IR )
90011      C MYGXLC (6,3,2) - MYGXLC ( IG, IVP, IR )
90012      C MYGTWC (6,3,2) - MYGTWC ( IG, IVP, IR )
90013      C
90014      C Common block dictionary:
90015      C
90016      C      Name      Type      Description
90017      C      -----
90018      C /ALUPAC/:
90019      C
90020      C MYGACE      I      the last year of the model year groups for ACEQIP
90021      C                                (fraction of vehicles equipped with a/c)
90022      C MYGACC      I      the last year of the model year groups for ACCF
90023      C                                (a/c correction factors)
90024      C
90025      C /ALUPLT/:
90026      C
90027      C MYGXLC      I      the last year of the model year groups for XLCP
90028      C                                (extra load correction factors)
90029      C MYGTWC      I      the last year of the model year groups for TWCF
90030      C                                (trailer towing correction factors)
90031      C
90032      COMMON /ALUPAC/ MYGACE (8,3,2),MYGACC (2,3,2)
90033      COMMON /ALUPLT/ MYGXLC (6,3,2),MYGTWC (6,3,2)
90034      C
90035      DATA MYGACE/
90036      C Low altitude region
90037      * 1961,1964,1966,1968,1971,1976,2020,0000,
90038      * 1976,1977,2020,0000,0000,0000,0000,0000,
90039      * 1976,1977,2020,0000,0000,0000,0000,0000,
90040      C High altitude region
90041      * 1961,1964,1966,1968,1971,1976,2020,0000,
90042      * 1976,1977,2020,0000,0000,0000,0000,0000,
90043      * 1976,1977,2020,0000,0000,0000,0000,0000/
90044      C
90045      DATA MYGACC/
90046      C Low altitude region
90047      * 1974,2020,
90048      * 1974,2020,
90049      * 1978,2020,
90050      C High altitude region
90051      * 1974,2020,
90052      * 1974,2020,
90053      * 1978,2020/
90054      C
90055      DATA MYGXLC/
90056      C Low altitude region
90057      * 1967,1969,1971,1972,1974,2020,

```

Appendix C: MOBILE3 Block Data 20

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90058	*	1967, 1969, 1971, 1972, 1974, 2020,
90059	*	1969, 1973, 1978, 2020, 0000, 0000,
90060	C	High altitude region
90061	*	1967, 1969, 1971, 1972, 1974, 2020,
90062	*	1967, 1969, 1971, 1972, 1974, 2020,
90063	*	1969, 1973, 1978, 2020, 0000, 0000/
90064	C	
90065		DATA MYGTWC/
90066	C	Low altitude region
90067	*	1967, 1969, 1971, 1972, 1974, 2020,
90068	*	1967, 1969, 1971, 1972, 1974, 2020,
90069	*	1969, 1973, 1978, 2020, 0000, 0000,
90070	C	High altitude region
90071	*	1967, 1969, 1971, 1972, 1974, 2020,
90072	*	1967, 1969, 1971, 1972, 1974, 2020,
90073	*	1969, 1973, 1978, 2020, 0000, 0000/
90074	C	
90075		END

```

91000      BLOCK DATA
91001      C
91002      C BLOCK DATA Subprogram 21
91003      C
91004      C BLOCK DATA 21 initializes the gasoline vs diesel sales fractions.
91005      C
91006      C Common block array subscripts:
91007      C
91008      C GSFRAC(22,8,2) - GSFRAC ( IGSFPT, IV, IR )
91009      C MYGSF(22,8,2) - MYGSF ( IG, IV, IR )
91010      C
91011      C Common block dictionary:
91012      C
91013      C   Name   Type           Description
91014      C -----
91015      C /GSFCOM/:
91016      C
91017      C MAXGSF      I      maximum number of sales fractions for any IR & IV case
91018      C GSFRAC      I      gasoline vs diesel sales fractions
91019      C MYGSF      I      gasoline vs diesel sales fraction model year groups
91020      C
91021      C Local array subscripts:
91022      C
91023      C GSFLO(22,8) - GSFLO ( IGSFPT, IV)
91024      C GSFHI(22,8) - GSFHI ( IGSFPT, IV)
91025      C IGSFLO(22,8) - IGSFLO ( IG, IV )
91026      C IGSFHI(22,8) - IGSFHI ( IG, IV )
91027      C
91028      C Local array dictionary:
91029      C
91030      C   Name   Type           Description
91031      C -----
91032      C GSFLO      R      low altitude region sales fractions
91033      C GSFHI      R      high altitude region sales fractions
91034      C IGSFLO      I      last year of sales fraction model year groups
91035      C                      for low altitude regions
91036      C IGSFHI      I      last year of sales fraction model year groups
91037      C                      for high altitude regions
91038      C
91039      C Notes:
91040      C
91041      C Sales fractions were updated.
91042      C
91043      C      COMMON /GSFCOM/ MAXGSF,GSFRAC(22,8,2),MYGSF(22,8,2)
91044      C
91045      C      DIMENSION
91046      C      * GSFLO(22,8),
91047      C      * GSFHI(22,8),
91048      C      * IGSFLO(22,8),
91049      C      * IGSFHI(22,8)
91050      C
91051      C      EQUIVALENCE
91052      C      * (GSFRAC(1,1,1),GSFLO(1,1)),
91053      C      * (GSFRAC(1,1,2),GSFHI(1,1)),
91054      C      * (MYGSF(1,1,1),IGSFLO(1,1)),
91055      C      * (MYGSF(1,1,2),IGSFHI(1,1))
91056      C
91057      C      DATA MAXGSF/22/

```


[illegible]

Appendix C: MOBILE3 Block Data 21

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```

91116 C Last year of light duty (or motorcycle) model year groups
91117 C
91118 C Low altitude region
91119 DATA IGSFLO/
91120 C LDGV
91121 * 1974,1976,1977,1978,1979,1980,1981,1982,1983,1984,1985,
91122 * 1986,1987,1988,1989,1991,1993,2020,0000,0000,0000,0000,
91123 C LDGT1
91124 * 1974,1975,1976,1977,1978,1979,1980,1981,1982,1983,1984,
91125 * 1985,1986,1987,1988,1989,1990,1991,1992,1993,1994,2020,
91126 C LDGT2
91127 * 1974,1975,1976,1977,1978,1979,1980,1981,1982,1983,1984,
91128 * 1985,1986,1987,1988,1989,1990,1991,1992,1993,1994,2020,
91129 C HDGV
91130 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91131 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91132 C LDDV
91133 * 1974,1976,1977,1978,1979,1980,1981,1982,1983,1984,1985,
91134 * 1986,1987,1988,1989,1991,1993,2020,0000,0000,0000,0000,
91135 C LDDT
91136 * 1974,1975,1976,1977,1978,1979,1980,1981,1982,1983,1984,
91137 * 1985,1986,1987,1988,1989,1990,1991,1992,1993,1994,2020,
91138 C HDDV
91139 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91140 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91141 C MC
91142 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91143 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000/
91144 C
91145 C High altitude region
91146 DATA IGSFHI/
91147 C LDGV
91148 * 1974,1976,1977,1978,1979,1980,1981,1982,1983,1984,1985,
91149 * 1986,1987,1988,1989,1991,1993,2020,0000,0000,0000,0000,
91150 C LDGT1
91151 * 1974,1975,1976,1977,1978,1979,1980,1981,1982,1983,1984,
91152 * 1985,1986,1987,1988,1989,1990,1991,1992,1993,1994,2020,
91153 C LDGT2
91154 * 1974,1975,1976,1977,1978,1979,1980,1981,1982,1983,1984,
91155 * 1985,1986,1987,1988,1989,1990,1991,1992,1993,1994,2020,
91156 C HDGV
91157 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91158 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91159 C LDDV
91160 * 1974,1976,1977,1978,1979,1980,1981,1982,1983,1984,1985,
91161 * 1986,1987,1988,1989,1991,1993,2020,0000,0000,0000,0000,
91162 C LDDT
91163 * 1974,1975,1976,1977,1978,1979,1980,1981,1982,1983,1984,
91164 * 1985,1986,1987,1988,1989,1990,1991,1992,1993,1994,2020,
91165 C HDDV
91166 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91167 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91168 C MC
91169 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,0000,
91170 * 0000,0000,0000,0000,0000,0000,0000,0000,0000,0000/
91171 C
91172 END

```

```

92000      BLOCK DATA
92001      C
92002      C BLOCK DATA Subprogram 22
92003      C
92004      C BLOCK DATA 22 initializes character strings used in output formats and
92005      C pointers into character string arrays.
92006      C
92007      C Common block array subscripts:
92008      C
92009      C NOYES (2)      - NOYES ( <INO,IMTFLG,IMFLAG,ATPFLG> )
92010      C USNAME (4,4)  - USNAME ( ICH, IUSD )
92011      C IUSD (4)      - IUSD ( ICT )
92012      C
92013      C Common block dictionary:
92014      C
92015      C   Name      Type      Description
92016      C   -----
92017      C /STRING/:
92018      C
92019      C NOYES      R      character string for no/yes
92020      C COMMA      R      character string for comma
92021      C PERIOD      R      character string for period
92022      C
92023      C /USDATA/:
92024      C
92025      C IUSD        I      pointers to the names of user supplied one-time data for run
92026      C NUSD        I      number of names of user supplied one-time data for this run
92027      C USNAME      R      names of one-time data supplied by user
92028      C
92029      C REAL*8 USNAME
92030      C
92031      C COMMON /STRING/ NOYES (2),COMMA,PERIOD
92032      C COMMON /USDATA/ USNAME (4,4),NUSD,IUSD (4)
92033      C
92034      C DATA NOYES/'No ', 'Yes '/
92035      C DATA COMMA/',' , '/',PERIOD/',' , '/'
92036      C
92037      C DATA USNAME/' tamperi','ng and m','isfuelin','g rates ',
92038      *           ' basic ','exhaust ','emission','s rates ',
92039      *           ' mileag','e accrua','l distri','butions ',
92040      *           ' veh reg','istratio','n distri','butions '/
92041      C
92042      C DATA NUSD,IUSD/5*0/
92043      C
92044      C END

```


93000 BLOCK DATA

93001 C
 93002 C BLOCK DATA Subprogram 23
 93003 C
 93004 C BLOCK DATA 23 defines and initializes the common blocks created by the
 93005 C tampering code.

93006 C
 93007 C Common block array subscripts:

93008 C
 93009 C AER (11,11,2,2) - AER (IC11, IC11, IPG, IAY)
 93010 C ATR (7,2) - ATR (ID , IAY)
 93011 C BTR (7,2) - BTR (ID, IAY)
 93012 C CSAE (12) - CSAE (IC)
 93013 C CSIZE (12,2) - CSIZE (IC , IAY)
 93014 C DRTAM (7,2,4) - DRTAM (ID, IM, IVTAM)
 93015 C EGS (7,2) - EGS (IEG, IPG)
 93016 C EMGR (4,3,3) - EMGR (IG2, IB, IP)
 93017 C EMI (7,3,3) - EMI (IEG, IB, IP)
 93018 C EMOX (3,3,3) - EMOX (IEK, IB, IP)
 93019 C EM3W (3,3,3) - EM3W (IEK, IB, IP)
 93020 C EVPAER (2,2) - EVPAER (IHG, IAY)
 93021 C EVPEMI (11,3,4) - EVPEMI (IG4, IH, IVTAM)
 93022 C EVPTGS (3,2,4) - EVPTGS (IG3, IHG, IVTAM)
 93023 C INDXCS (5,4) - INDXCS (NT, IS)
 93024 C LVTFLG (4) - LVTFLG (IVTAM)
 93025 C MYEGR (4,4) - MYEGR (IG2, IVTAM)
 93026 C MYTGS (10,6,4) - MYTGS (IG1, IQG, IVTAM)
 93027 C MYVEI (11,2,4) - MYVEI (IG4, IHG, IVTAM)
 93028 C MYVTS (3,2,4) - MYVTS (IG3, IHG, IVTAM)
 93029 C NTERMS (4) - NTERMS (IS)
 93030 C OMTCF (20,3,8) - OMTCF (IDX, IP, IV)
 93031 C OMTTAM (20,3,4) - OMTTAM (IDX, IP, IVTAM)
 93032 C TAMBAG (3,3,20,4) - TAMBAG (IB, IP, IDX, IVTAM)
 93033 C TAMEVP (3,20,4) - TAMEVP (IHC, IDX, IVTAM)
 93034 C TGS (10,6,4) - TGS (IG1, IQG, IVTAM)
 93035 C ZMLTAM (7,2,4) - ZMLTAM (ID, IM, IVTAM)

93036 C
 93037 C Common block dictionary:

93038 C
 93039 C Name Type Description
 93040 C -----
 93041 C /ATPPAR/:
 93042 C
 93043 C ATPFLG = 2 => user enters EVPAER, AER & all of this block:
 93044 C
 93045 C LAPSY I ATP start year
 93046 C LAP1ST I 1st (oldest) model year of the ATP
 93047 C LAPLST I last (youngest) model year of the ATP
 93048 C LVTFLG I which vehicle types covered by the anti-tampering program.
 93049 C for each of the 4 (LDGV, LDGT1, LDGT2, HDGV) flags:
 93050 C 1 = not covered
 93051 C 2 = covered
 93052 C all "1"s = same result as ATPFLG = 1 = no program - the ATP
 93053 C effectiveness matrices are not applied.
 93054 C NLAT I number of lines in the ATP name (line 1 of AER matrices file)
 93055 C ATNAME R ATP name (lines 2 to NLAT+1 of AER matrices file)
 93056 C = description of the set of credits supplied by the file
 93057 C


```

93058 C /BASETR/:
93059 C
93060 C BTR      R    base tampering rate for standalone disablement cases
93061 C ZMLTAM   R    tampering zero mile level (intercept)
93062 C DRTAM    R    tampering deterioration rate (slope)
93063 C
93064 C TAMFLG = 2 => user replaces all of ZMLTAM & DRTAM with values read in by
93065 C               ONESEC (1-time Data Section).
93066 C
93067 C /EGSCAL/:
93068 C
93069 C AER      R    anti-tampering program effectiveness rates: ATPFLG = 2 =>
93070 C               user supplies 4 11 X 11 matrices using 11F5.2 format:
93071 C               11 X 11 matrix 1 - previous (up thru LAPSY), HC/CO
93072 C               11 X 11 matrix 2 - previous, NOX
93073 C               11 X 11 matrix 3 - subsequent (after LAPSY), HC/CO
93074 C               11 X 11 matrix 4 - subsequent, NOX
93075 C               row 1C of each 11 X 11 is multiplied times vector CSIZE to
93076 C               get CSAE(1C).
93077 C TGS      R    technology (pollution control equipment) group size
93078 C EGS      R    tampering effects group size
93079 C
93080 C /EMECAL/:
93081 C
93082 C EM3W     R    emission impact rates for 3-way catalysts
93083 C EMOX     R    emission impact rates for oxidation catalysts
93084 C EMEGR    R    emission offsets for EGR failure
93085 C EMI      R    emission impact offset assuming 100% tampering rate
93086 C
93087 C /EVPDAT/:
93088 C
93089 C EVPAER   R    evap/PCV ATP effectiveness rates: ATPFLG = 2 => user supplies
93090 C               one 2 X 2 matrix using 4F5.2 format:
93091 C               (1,1) - previous evap      (1,2) - subsequent evap
93092 C               (2,1) - previous CC        (2,2) - subsequent CC
93093 C EVPTGS   R    evap/PCV technology group sizes
93094 C EVPEMI   R    evap/PCV emission impact rates
93095 C
93096 C /LOOKUP/:
93097 C
93098 C IVTAM, IQG, IPG, JPGD & IHG are defined in the subscript dictionary.
93099 C
93100 C /MYCODE/:
93101 C
93102 C MY       I    model year being evaluated on current IDX loop pass
93103 C LDXSY    I    pointer: anti-tampering program start year's location in the
93104 C               calendar year's 20 model year window; JDX ordering
93105 C LMYRVT   I    flag: 1 = IDX not in ATP my range & vt is covered
93106 C               2 = IDX & vt ok
93107 C IMDXSY   I    pointer: inspection / maintenance program start year's
93108 C               location in the calendar year's 20 model year window;
93109 C               JDX ordering
93110 C KINK     I    flag: 1 = tampering rate curves straight;
93111 C               2 = tampering rate curves have 1/M kink
93112 C IDX, JDX and IAY are defined in the subscript dictionary.
93113 C
93114 C /MYUBPT/:
93115 C

```

Appendix C: MOBILE3 Block Data 23

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```

93116 C MYTGS I model year range upper bound years for IGDPTR indexing TGS
93117 C MYEGR I model year range upper bound years for IGDPTR indexing EMEGR
93118 C MYVTS I model year range upper bound years for IGDPTR indexing EVPTGS
93119 C MYVEI I model year range upper bound years for IGDPTR indexing EVPEMI
93120 C
93121 C /OMTCOM/:
93122 C
93123 C OMTCF R operating mode & temperature correction factor to the
93124 C composite emission factor. Calculated in BIGCFX. Passed to
93125 C function BEF to be multiplied times the CEF.
93126 C OMTTAM R operating mode and temperature corrected tampering effect on
93127 C bag emissions. Calculated in BIGCFX. Passed to BEF to be
93128 C added to the (corrected for OMTCF & I/M) CEF.
93129 C
93130 C /SIZCAL/:
93131 C
93132 C ATR R tampering rate adjusted for equipment type & size
93133 C TGSUSE R technology group size from TGS used on EFFGRP IQG loop pass.
93134 C CSIZE R effects category size
93135 C CSAE R CSIZE modified by AER
93136 C
93137 C /SIZPAR/:
93138 C
93139 C NTERMS I number of overlap category sizes to be subtracted from
93140 C ATR(IS,IAY) to obtain CSIZE(IS+7,IAY).
93141 C INDXCS I pointer to the category sizes to be subtracted from
93142 C ATR(IS,IAY) to obtain CSIZE(IS+7,IAY)
93143 C
93144 C /TAMOUT/:
93145 C
93146 C TAMBAG R tampering effects on the exhaust bag data. Calculated in
93147 C subroutine TAMPER. Passed to BIGCFX to get OMTTAM.
93148 C TAMEVP R tampering effects on the non-exhaust HC emissions: hot soak &
93149 C diurnal evap & crankcase. Calculated in subroutine TAMPER.
93150 C passed to function CCEVRT & added to CCEVRT's components.
93151 C
93152 C Local array subscripts:
93153 C
93154 C MYTGSH(10,6) - MYTGSH ( IG1, IQG )
93155 C MYTGSL(10,6,3) - MYTGSL ( IG1, IQG, IVTAM )
93156 C TGSHDV(10,6) - TGSHDV ( IG1, IQG )
93157 C TGSLDV(10,6,3) - TGSLDV ( IG1, IQG, IVTAM )
93158 C
93159 C Local array dictionary:
93160 C
93161 C Name Type Description
93162 C -----
93163 C MYTGSH I my range ub years for HDGV for IGDPTR indexing TGS
93164 C MYTGSL I my range ub years for LDGV/T1/T2 for IGDPTR indexing TGS
93165 C TGSHDV R technology group sizes for HDGV
93166 C TGSLDV R technology group sizes for LDGV/T1/T2
93167 C
93168 C Notes:
93169 C
93170 C The following common blocks defined and used elsewhere in MOBILE3 contain
93171 C data used by the tampering effects section:
93172 C
93173 C /CUMCOM/: CUMMIL - cumulative mileage array (JDX,IV)

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93174 C /FLAGS2/: IMFLAG - I/M program flag
93175 C /IMPAR1/: ICYIM - I/M program start year
93176 C MODYR1 - first model year covered by I/M program
93177 C MODYR2 - last model year covered by I/M program
93178 C ILDT - vehicle types covered by I/M program
93179 C
93180 C See the BLOCK DATA sections for these commons for more information on their
93181 C variables / arrays.
93182 C
93183 C FORTRAN limits the number of continuation lines to 19. Use equivalenced
93184 C local arrays to initialize common block arrays if this limit will be
93185 C exceeded otherwise. This is true throughout all the BLOCK DATAs.
93186 C
93187 C
93188 C COMMON /ATPPAR/ LAPSY,LAPIST,LAPLST,LVTFLG(4),NLAT,ATNAME(20,9)
93189 C COMMON /BASETR/ BTR(7,2),ZMLTAM(7,2,4),DRTAM(7,2,4)
93190 C COMMON /EGSCAL/ AER(11,11,2,2),TGS(10,6,4),EGS(7,2)
93191 C COMMON /EMECAL/ EM3W(3,3,3),EMOX(3,3,3),EMEGR(4,3,3),EMI(7,3,3)
93192 C COMMON /EVPDAT/ EVPAER(2,2),EVPTGS(3,2,4),EVPEMI(11,3,4)
93193 C COMMON /LOOKUP/ IVTAM,IQG,IPG,JPGD,IHG
93194 C COMMON /MYCODE/ MY,IDX,JDX,LDXSY,LMYRVT,IAY,IMDXSY,KINK
93195 C COMMON /MYUBPT/MYTGSL(10,6,3),MYTGS(10,6,4),MYEGR(4,4),MYVTS(3,2,4),MYVEI(11,2,4)
93196 C COMMON /OMTCOM/ OMTCF(20,3,8),OMTTAM(20,3,4)
93197 C COMMON /SIZCAL/ ATR(7,2),TGSUSE,CSIZE(12,2),CSAE(12)
93198 C COMMON /SIZPAR/ NTERMS(4),INDXCS(5,4)
93199 C COMMON /TAMOUT/ TAMBAG(3,3,20,4),TAMEVP(3,20,4)
93200 C
93201 C DIMENSION MYTGSL(10,6,3),MYTGS(10,6)
93202 C DIMENSION TGS(10,6,3),TGS(10,6)
93203 C
93204 C EQUIVALENCE (MYTGS(1,1,1),MYTGSL(1,1,1))
93205 C EQUIVALENCE (MYTGS(1,1,4),MYTGSH(1,1))
93206 C EQUIVALENCE (TGS(1,1,1),TGS(1,1,1))
93207 C EQUIVALENCE (TGS(1,1,4),TGS(1,1,4))
93208 C
93209 C /ATPPAR/: values can be replaced by user entered values.
93210 C
93211 C DATA LAPSY,LAPIST,LAPLST/3*2020/,LVTFLG/4*1/
93212 C DATA NLAT/0/,ATNAME/180*' '/
93213 C
93214 C /BASETR/: contains BTR, whose rates are calculated during execution.
93215 C ZMLTAM and DRTAM have hardcoded values that can be replaced with
93216 C user supplied values in the One-time Data input section.
93217 C
93218 C DATA BTR/14*0./
93219 C
93220 C Continuation line codes for ZMLTAM and DRTAM:
93221 C 1 = non-I/M case
93222 C 2 = I/M case
93223 C Each line contains the 7 disablement intercepts (ZMLTAM) and deterioration
93224 C rates (DRTAM) for the given vehicle type and IM case.
93225 C
93226 C warning: the I/M rates for HDGV are LDGT2 rates and will not be accessed
93227 C by MOBILE3, since I/M for HDGV is not allowed in MOBILE3.
93228 C
93229 C DATA ZMLTAM/
93230 C LDGV
93231 C 1 -.0271,-.0195,-.0143,.0165,-.0006,-.0048,.0002,

```


Appendix C: MOBILE3 Block Data 23

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93232      2 -.0101,-.0011,-.0077, .0382,-.0006,-.0048,.0002,
93233 C LDGT1
93234      1 .0489, .1353, .1101, .0696,.0502, .0377, .0308,
93235      2 -.0100, .0332, .0470, .0699,.0502, .0377, .0308,
93236 C LDGT2
93237      1 .0489, .1353, .1101, .0696,.0502, .0377, .0308,
93238      2 -.0100, .0332, .0470, .0699,.0502, .0377, .0308,
93239 C HDGV
93240      1 .0489, .1353, .1101, .0696,.0502, .0377, .0308,
93241      2 -.0100, .0332, .0470, .0699,.0502, .0377, .0308/
93242 C
93243      DATA DRTAM/
93244 C LDGV
93245      1 .02652,.01611,.02022, .00559,.02199,.00335,.00248,
93246      2 .01111,.00459,.01000,-.00211,.02199,.00335,.00248,
93247 C LDGT1
93248      1 .02652,.01611,.02022, .00559,.02199,.00335,.00248,
93249      2 .01111,.00459,.01000,-.00211,.02199,.00335,.00248,
93250 C LDGT2
93251      1 .02652,.01611,.02022, .00559,.02199,.00335,.00248,
93252      2 .01111,.00459,.01000,-.00211,.02199,.00335,.00248,
93253 C HDGV
93254      1 .02652,.01611,.02022, .00559,.02199,.00335,.00248,
93255      2 .01111,.00459,.01000,-.00211,.02199,.00335,.00248/
93256 C
93257 C /EGSCAL/: TGS never changes, but AER can be replaced by user supplied
93258 C rates in One-time Data. EGS is always computed during execution.
93259 C
93260 C AER is initialized to 4 11 X 11 matrices with 1.'s down the major diagonal
93261 C and 0.'s for all other cells. The continuation line code is:
93262 C 1 = previous (before ATP start year), HC/CO
93263 C 2 = previous, NOX
93264 C 3 = subsequent (at or after ATP start year), HC/CO
93265 C 4 = subsequent, NOX
93266 C
93267      DATA AER/
93268      1 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0.,
93269      1 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,
93270      2 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0.,
93271      2 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,
93272      3 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0.,
93273      3 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,
93274      4 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0.,
93275      4 1.,11*0., 1.,11*0., 1.,11*0., 1.,11*0., 1.,/
93276 C
93277 C TGS has up to 10 percentages for each vehicle type / technology
93278 C combination. The remaining cells are dummied out with zeroes.
93279 C For each IVTAM, the continuation line technology code is:
93280 C 1 = air pump only
93281 C 2 = air pump / catalyst
93282 C 3 = catalyst only
93283 C 4 = EGR only
93284 C 5 = EGR / 3-way catalyst
93285 C 6 = no EGR / 3-way catalyst
93286 C
93287      DATA TGSLDV/
93288 C LDGV
93289      1 .00, .05, .10, .30, .15, .10, .05, .00, .00, .00,

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Appendix C: MOBILE3 Block Data 23

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93290      2 .00, .30, .20, .25, .65, .85, .70, .60, .40, .30,
93291      3 .00, .50, .55, .65, .30, .15, .30, .40, .60, .70,
93292      4 .00, .80, .90, .05, .00, .00, .00, .00, .00, .00,
93293      5 .00, .07, .85, .93, .90, .00, .00, .00, .00, .00,
93294      6 .00, .02, .07, .10, .00, .00, .00, .00, .00, .00,
93295 C LDGT1
93296      1 .00, .05, .10, .30, .10, .00, .00, .00, .00, .00,
93297      2 .00, .30, .20, .40, .50, .50, .00, .00, .00, .00,
93298      3 .00, .40, .50, .55, .40, .50, .00, .00, .00, .00,
93299      4 .00, .80, .90, 1.00, .95, .80, .70, .60, .15, .00,
93300      5 .00, .05, .20, .30, .40, .85, .00, .00, .00, .00,
93301      6 .00, .00, .00, .00, .00, .00, .00, .00, .00, .00,
93302 C LDGT2
93303      1 .00, .00, .00, .00, .00, .00, .00, .00, .00, .00,
93304      2 .00, .50, .00, .00, .00, .00, .00, .00, .00, .00,
93305      3 .00, .50, .00, .00, .00, .00, .00, .00, .00, .00,
93306      4 .00, .30, 1.00, .90, .60, .15, .00, .00, .00, .00,
93307      5 .00, .10, .40, .85, .00, .00, .00, .00, .00, .00,
93308      6 .00, .00, .00, .00, .00, .00, .00, .00, .00, .00/
93309 C HDGV
93310      DATA TGSHDV/
93311      1 .00, .00, .00, .00, .00, .00, .00, .00, .00, .00,
93312      2 .00, .37, .00, .00, .00, .00, .00, .00, .00, .00,
93313      3 .00, .37, .00, .00, .00, .00, .00, .00, .00, .00,
93314      4 .00, 1.00, .00, .00, .00, .00, .00, .00, .00, .00,
93315      5 .00, .00, .00, .00, .00, .00, .00, .00, .00, .00,
93316      6 .00, .00, .00, .00, .00, .00, .00, .00, .00, .00/
93317 C
93318      DATA EGS/14*0.0/
93319 C
93320 C /EMECAL/: EM3W, EMOX, EMEGR and EMI(1/6/7,1B,1P) never change.
93321 C      EMI(2-5,1B,1P) values are computed during execution.
93322 C
93323 C Each of the 4 arrays is ordered 1st by pollutant and then by bag.
93324 C The continuation line code is thus:
93325 C      1 = HC
93326 C      2 = CO
93327 C      3 = NOX
93328 C
93329 C Within each line the values are blocked by bag 1,2,3 in that order.
93330 C Within each block the values are ordered by disablement effects group
93331 C for EM3W, EMOX AND EMI or by model year group for EMEGR.
93332 C
93333      DATA EM3W/
93334      1 1.52, 1.48, 1.44, 0.11, 1.89, 1.77, 0.50, 1.44, 1.30,
93335      2 41.20, 23.87, 14.49, 5.18, 18.11, 11.32, 18.69, 12.64, 8.86,
93336      3 0.00, 1.66, 0.76, 0.00, 2.27, 0.66, 0.00, 2.34, 0.95/
93337 C
93338      DATA EMOX/
93339      1 1.80, 2.31, 2.30, 1.37, 3.40, 2.57, 1.04, 2.95, 2.40,
93340      2 34.67, 41.40, 46.50, 33.90, 28.97, 13.13, 21.28, 16.06, 16.62,
93341      3 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00/
93342 C
93343      DATA EMEGR/
93344      1 4*0.00, 4*0.00, 4*0.00,
93345      2 4*0.00, 4*0.00, 4*0.00,
93346      3 1.40, 3.82, 4.11, 1.36, 0.96, 2.63, 2.68, 1.19, 1.54, 4.21, 4.53, 1.21/
93347 C

```

```

93348      DATA EMI/
93349      1  1.80,6*0.00,      1.37,6*0.00,      1.04,6*0.00,
93350      2  34.67,6*0.00,      33.90,6*0.00,      21.28,6*0.00,
93351      3  5*0.00,3.02,2.12,  5*0.00,3.46,1.85,  5*0.00,3.55,2.16/
93352      C
93353      C /EVPDAT/: EVPTGS and EVPEMI never change. The user will be allowed to
93354      C replace the EVPAER rates with values from the One-time Data
93355      C section.
93356      C
93357      C All the evap and PCV effectiveness rates start at the neutral value, 1.
93358      C
93359      DATA EVPAER/4*1./
93360      C
93361      C EVPTGS continuation line code is:
93362      C 1 = LDGV
93363      C 2 = LDGT1
93364      C 3 = LDGT2
93365      C 4 = HDGV
93366      C Each line is divided into evap and PCV blocks. Each block is filled with
93367      C model year group values and dummy zeroes.
93368      C
93369      DATA EVPTGS/
93370      1  .00,1.00, .00, .00, .00,1.00,
93371      2  .00,1.00, .00, .00, .00,1.00,
93372      3  .00, .05,1.00, .00,1.00, .00,
93373      4  .00,1.00, .00, .00,1.00, .00/
93374      C
93375      C The EVPEMI continuation line code is:
93376      C 1 = hot soak evap
93377      C 2 = diurnal evap
93378      C 3 = crankcase (PCV)
93379      C There are up to 9 model year group values per line, with dummy zeroes
93380      C filling out the array.
93381      C
93382      DATA EVPEMI/
93383      C LDGV
93384      1  .00, 6.39,18.77,10.85,12.03,10.85, 9.61, 7.97, 5.18, 2.72, 1.49,
93385      2  .00,16.66,11.92,16.04,10.79,10.79,10.79,10.79,10.79,10.79,10.79,
93386      3  0.00, 3.80, 3.74, 3.51, 3.44, 3.29, 2.83, 2.68, 2.49, 2*0.,
93387      C LDGT1
93388      1  .00, 6.39,18.77,10.85,13.28,11.16, 9.03, 6.91, 5.05, 2.72, 1.49,
93389      2  .00,16.66,11.92,16.04,10.79,10.79,10.79,10.79,10.79,10.79,10.79,
93390      3  0.00, 3.80, 3.74, 3.51, 3.44, 3.29, 2.83, 2.68, 2.49, 2*0.,
93391      C LDGT2
93392      1  0.00,10.85,13.28,11.16, 9.03, 6.91, 5.05, 2.72, 1.49, 2*0.,
93393      2  0.00,16.04,10.79,10.79,10.79,10.79,10.79,10.79,10.79, 2*0.,
93394      3  0.00, 5.20, 4.88, 4.78, 4.57, 3.93, 3.73, 3.46, 3*0.,
93395      C HDGV
93396      1  0.00,17.28, 9*0.,
93397      2  0.00,25.54, 9*0.,
93398      3  0.00, 5.70, 9*0.00/
93399      C
93400      C /LOOKUP/ & /MYCODE/ are all indices computed during execution.
93401      C
93402      DATA IVTAM,IQG,IPG,JPGD,IHG/5*1/
93403      DATA MY,IDX,JDX,LDSY,LMYRVT,IAY,IMDSY,KINK/2020,7*1/
93404      C
93405      C /MYUBPT/: the model year upper bound pointers never change.

```

93406 C
 93407 C MYTGS continuation line code corresponds to the IQG code:
 93408 C 1 = air pump only
 93409 C 2 = air pump / catalyst
 93410 C 3 = catalyst only
 93411 C 4 = EGR only
 93412 C 5 = EGR / 3-way catalyst
 93413 C 6 = no EGR / 3-way catalyst
 93414 C
 93415 DATA MYTGSL/
 93416 C LDGV
 93417 1 1967,1971,1972,1974,1975,1977,1979,2020,0000,0000,
 93418 2 1974,1976,1977,1979,1980,1981,1982,1984,1986,2020,
 93419 3 1974,1975,1976,1979,1980,1981,1982,1984,1986,2020,
 93420 4 1972,1973,1980,1983,2020,0000,0000,0000,0000,0000,
 93421 5 1979,1980,1983,1986,2020,0000,0000,0000,0000,0000,
 93422 6 1980,1983,1986,2020,0000,0000,0000,0000,0000,0000,
 93423 C LDGT1
 93424 1 1967,1971,1972,1974,1980,2020,0000,0000,0000,0000,
 93425 2 1974,1976,1978,1980,1983,2020,0000,0000,0000,0000,
 93426 3 1974,1975,1976,1978,1980,2020,0000,0000,0000,0000,
 93427 4 1972,1973,1978,1980,1981,1982,1983,1986,2020,0000,
 93428 5 1980,1981,1982,1983,1986,2020,0000,0000,0000,0000,
 93429 6 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,
 93430 C LDGT2
 93431 1 1978,2020,0000,0000,0000,0000,0000,0000,0000,0000,
 93432 2 1978,2020,0000,0000,0000,0000,0000,0000,0000,0000,
 93433 3 1978,2020,0000,0000,0000,0000,0000,0000,0000,0000,
 93434 4 1972,1978,1982,1983,1986,2020,0000,0000,0000,0000,
 93435 5 1982,1983,1986,2020,0000,0000,0000,0000,0000,0000,
 93436 6 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000/
 93437 C HDGV
 93438 DATA MYTGSH/
 93439 1 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,
 93440 2 1986,2020,0000,0000,0000,0000,0000,0000,0000,0000,
 93441 3 1986,2020,0000,0000,0000,0000,0000,0000,0000,0000,
 93442 4 1986,2020,0000,0000,0000,0000,0000,0000,0000,0000,
 93443 5 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000,
 93444 6 2020,0000,0000,0000,0000,0000,0000,0000,0000,0000/
 93445 C
 93446 C MYEGR keys only on vehicle type, even though EMEGR varies with pollutant
 93447 C and bag number. Also, cell 2 for LDGT2 is a dummy, since there is no
 93448 C NOX 3.1 standard my range for LDGT2. Otherwise, the 4 ranges for each
 93449 C IVTAM correspond to the no standard, 3.1, 2.0 and 1.0 cases.
 93450 C The continuation line code is the IVTAM code:
 93451 C 1 = LDGV
 93452 C 2 = LDGT1
 93453 C 3 = LDGT2
 93454 C 4 = HDGV
 93455 C
 93456 DATA MYEGR/
 93457 1 1974,1976,1980,2020,
 93458 2 1974,1978,1986,2020,
 93459 3 1978,1978,1986,2020,
 93460 4 1986,2020,0000,0000/
 93461 C
 93462 C MYVTS continuation line code is also the IVTAM code. Each line is
 93463 C divided into the evap and PCV blocks.

```

93464 C
93465 DATA MYVTS/
93466 1 1970,2020,0000, 1962,1967,2020,
93467 2 1970,2020,0000, 1962,1967,2020,
93468 3 1970,1978,2020, 1967,2020,0000,
93469 4 1984,2020,0000, 1967,2020,0000/
93470 C
93471 C MYVEI continuation line code is
93472 C 1 = evap (hot soak & diurnal)
93473 C 2 = crankcase
93474 C
93475 DATA MYVEI/
93476 C LDGV
93477 1 1970,1971,1977,1980,1981,1982,1983,1984,1986,1989,2020,
93478 2 1963,1967,1970,1974,1977,1979,1980,1982,2020, 2*0,
93479 C LDGT1
93480 1 1970,1971,1977,1980,1983,1984,1985,1986,1987,1989,2020,
93481 2 1963,1967,1970,1974,1977,1979,1980,1982,2020, 2*0,
93482 C LDGT2
93483 1 1978,1980,1983,1984,1985,1986,1987,1989,2020, 2*0,
93484 2 1967,1970,1974,1977,1979,1980,1982,2020, 3*0,
93485 C HDGV
93486 1 1984,2020, 9*0,
93487 2 1967,2020, 9*0/
93488 C
93489 C /OMTCF/: all values are computed during execution by BIGCFX.
93490 C
93491 DATA OMTCF/480*1.0/,OMTTAM/240*0.0/
93492 C
93493 C /SIZCAL/: values are all computed during execution.
93494 C
93495 DATA ATR,TGSUSE,CSIZE,CSAE/51*0.0/
93496 C
93497 C /SIZPAR/: values never change.
93498 C
93499 DATA NTERMS/5,5,3,3/
93500 DATA INDXCS/1,2,3,4,5,1,4,5,6,7,2,4,6,0,0,3,5,7,0,0/
93501 C
93502 C /TAMOUT/: all values are computed during execution - TAMBAG by BAGEME
93503 C and TAMEVP by BAGEVP.
93504 C
93505 DATA TAMBAG/720*0.0/,TAMEVP/240*0.0/
93506 END

```



```

94000      BLOCK DATA
94001      C
94002      C BLOCK DATA Subprogram 24
94003      C
94004      C BLOCK DATA 24 defines the model year groups for the temperature
94005      C correction factors.
94006      C
94007      C Common block array subscripts:
94008      C
94009      C MYGTCF (9,3,2,8) - MYGTCF ( IG, IP, IR, IV )
94010      C
94011      C Common block dictionary:
94012      C
94013      C      Name      Type      Description
94014      C      -----
94015      C /TCCOM2/:
94016      C
94017      C MAXTCF      I      maximum number of tcf model year groups allowed
94018      C MYGTCF      I      the last year of the tcf model year groups
94019      C
94020      C Local array subscripts:
94021      C
94022      C MYTCV1 (9,3,2) - MYTCV1 ( IG, IP, IR )
94023      C MYTCV2 (9,3,2) - MYTCV2 ( IG, IP, IR )
94024      C MYTCV3 (9,3,2) - MYTCV3 ( IG, IP, IR )
94025      C MYTCV4 (9,3,2) - MYTCV4 ( IG, IP, IR )
94026      C MYTCV5 (9,3,2) - MYTCV5 ( IG, IP, IR )
94027      C MYTCV6 (9,3,2) - MYTCV6 ( IG, IP, IR )
94028      C MYTCV7 (9,3,2) - MYTCV7 ( IG, IP, IR )
94029      C MYTCV8 (9,3,2) - MYTCV8 ( IG, IP, IR )
94030      C
94031      C Local array dictionary:
94032      C
94033      C      Name      Type      Description
94034      C      -----
94035      C MYTCV1      I      the last year of the LDGV model year groups
94036      C MYTCV2      I      the last year of the LDGT1 model year groups
94037      C MYTCV3      I      the last year of the LDGT2 model year groups
94038      C MYTCV4      I      the last year of the HDGV model year groups
94039      C MYTCV5      I      the last year of the LDDV model year groups
94040      C MYTCV6      I      the last year of the LDDT model year groups
94041      C MYTCV7      I      the last year of the HDDV model year groups
94042      C MYTCV8      I      the last year of the MC model year groups
94043      C
94044      C Notes:
94045      C
94046      C Model year groups were updated for 1980+ years.
94047      C
94048      COMMON /TCCOM2/ MAXTCF,MYGTCF (9,3,2,8)
94049      C
94050      DIMENSION
94051      * MYTCV1 (9,3,2),
94052      * MYTCV2 (9,3,2),
94053      * MYTCV3 (9,3,2),
94054      * MYTCV4 (9,3,2),
94055      * MYTCV5 (9,3,2),
94056      * MYTCV6 (9,3,2),
94057      * MYTCV7 (9,3,2),

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94058      * MYTCV8 (9,3,2)
94059      C
94060      EQUIVALENCE
94061      * (MYGTCF (1,1,1,1),MYTCV1 (1,1,1)),
94062      * (MYGTCF (1,1,1,2),MYTCV2 (1,1,1)),
94063      * (MYGTCF (1,1,1,3),MYTCV3 (1,1,1)),
94064      * (MYGTCF (1,1,1,4),MYTCV4 (1,1,1)),
94065      * (MYGTCF (1,1,1,5),MYTCV5 (1,1,1)),
94066      * (MYGTCF (1,1,1,6),MYTCV6 (1,1,1)),
94067      * (MYGTCF (1,1,1,7),MYTCV7 (1,1,1)),
94068      * (MYGTCF (1,1,1,8),MYTCV8 (1,1,1))
94069      C
94070      DATA MAXTCF/9/
94071      C
94072      C Last year of model year groups for temperature correction factor
94073      C
94074      DATA MYTCV1/
94075      C Low altitude region
94076      * 1967,1969,1971,1974,1979,1980,2020,0000,0000,
94077      * 1967,1969,1971,1974,1979,1980,2020,0000,0000,
94078      * 1967,1972,1974,1976,1979,1980,2020,0000,0000,
94079      C High altitude region
94080      * 1967,1969,1971,1974,1979,1980,2020,0000,0000,
94081      * 1967,1969,1971,1974,1979,1980,2020,0000,0000,
94082      * 1967,1972,1974,1976,1979,1980,2020,0000,0000/
94083      C
94084      C
94085      DATA MYTCV2/
94086      C Low altitude region
94087      * 1967,1969,1971,1974,1983,1986,2020,0000,0000,
94088      * 1967,1969,1971,1974,1983,1986,2020,0000,0000,
94089      * 1967,1972,1974,1978,1986,0000,2020,0000,0000,
94090      C High altitude region
94091      * 1967,1969,1971,1974,1983,0000,2020,0000,0000,
94092      * 1967,1969,1971,1974,1983,0000,2020,0000,0000,
94093      * 1967,1972,1974,1978,1986,0000,2020,0000,0000/
94094      C
94095      C
94096      DATA MYTCV3/
94097      C Low altitude region
94098      * 1969,1973,1986,1978,1983,0000,2020,0000,0000,
94099      * 1969,1973,1986,1978,1983,0000,2020,0000,0000,
94100      * 1969,1973,1978,0000,1986,0000,2020,0000,0000,
94101      C High altitude region
94102      * 1969,1973,0000,1978,1983,0000,2020,0000,0000,
94103      * 1969,1973,0000,1978,1983,0000,2020,0000,0000,
94104      * 1969,1973,1978,0000,1986,0000,2020,0000,0000/
94105      C
94106      C
94107      DATA MYTCV4/
94108      C Low altitude region
94109      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,
94110      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,
94111      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,
94112      C High altitude region
94113      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,
94114      * 1969,1973,1978,1983,1984,2020,0000,0000,0000,
94115      * 1969,1973,1978,1983,1984,2020,0000,0000,0000/

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94116 C
94117 C
94118 DATA MYTCV5/
94119 C Low altitude region
94120 * 1974,1976,1977,1978,1979,2020,0000,0000,0000,
94121 * 1974,1976,1977,1978,1979,2020,0000,0000,0000,
94122 * 1974,1976,1977,1978,1979,1980,1982,2020,0000,
94123 C High altitude region
94124 * 1974,1976,1977,1978,1979,2020,0000,0000,0000,
94125 * 1974,1976,1977,1978,1979,2020,0000,0000,0000,
94126 * 1974,1976,1977,1978,1979,1980,1982,2020,0000/
94127 C
94128 C
94129 DATA MYTCV6/
94130 C Low altitude region
94131 * 1978,1979,1982,2020,0000,0000,0000,0000,0000,
94132 * 1978,1979,1982,2020,0000,0000,0000,0000,0000,
94133 * 1978,1979,1984,2020,0000,0000,0000,0000,0000,
94134 C High altitude region
94135 * 1978,1979,1982,2020,0000,0000,0000,0000,0000,
94136 * 1978,1979,1982,2020,0000,0000,0000,0000,0000,
94137 * 1978,1979,1984,2020,0000,0000,0000,0000,0000/
94138 C
94139 C
94140 DATA MYTCV7/
94141 C Low altitude region
94142 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,
94143 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,
94144 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,
94145 C High altitude region
94146 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,
94147 * 2020,0000,0000,0000,0000,0000,0000,0000,0000,
94148 * 2020,0000,0000,0000,0000,0000,0000,0000,0000/
94149 C
94150 C
94151 DATA MYTCV8/
94152 C Low altitude region
94153 * 1977,1979,2020,0000,0000,0000,0000,0000,0000,
94154 * 1977,1979,2020,0000,0000,0000,0000,0000,0000,
94155 * 1977,2020,0000,0000,0000,0000,0000,0000,0000,
94156 C High altitude region
94157 * 1977,1979,2020,0000,0000,0000,0000,0000,0000,
94158 * 1977,1979,2020,0000,0000,0000,0000,0000,0000,
94159 * 1977,2020,0000,0000,0000,0000,0000,0000,0000/
94160 C
94161 END

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95000      BLOCK DATA
95001      C
95002      C BLOCK DATA Subprogram 25
95003      C
95004      C BLOCK DATA 25 initializes the HDDV characterization data by weight subclass
95005      C (C2B,L,M,H array name prefixes) and by relative model year (JDX & KDX):
95006      C (1) annual mileage accumulation rates
95007      C (2) total new registrations
95008      C
95009      C Common block array subscripts:
95010      C
95011      C C2BDVM(20) - C2BDVM ( JDX )
95012      C LHDVM(20) - LHDVM ( JDX )
95013      C MHDVM(20) - MHDVM ( JDX )
95014      C HHDVM(20) - HHDVM ( JDX )
95015      C
95016      C C2BDRG(21) - C2BDRG (KDX)
95017      C LHDRG(21) - LHDRG (KDX)
95018      C MHDRG(21) - MHDRG (KDX)
95019      C HHDRG(21) - HHDRG (KDX)
95020      C KDX=1 for pre-1981, 2 for 1981, ... , 21 for 2000+.
95021      C
95022      C Common block dictionary:
95023      C
95024      C      Name      Type      Description
95025      C      -----
95026      C /HDDMAR/:
95027      C
95028      C C2BDVM      R      class 2b HDDV mileage accumulation rates
95029      C LHDVM      R      light HDDV mileage accumulation rates
95030      C MHDVM      R      medium HDDV mileage accumulation rates
95031      C HHDVM      R      heavy HDDV mileage accumulation rates
95032      C
95033      C /HDDREG/:
95034      C
95035      C C2BDRG      R      class 2b HDDV new registrations
95036      C LHDRG      R      light HDDV new registrations
95037      C MHDRG      R      medium HDDV new registrations
95038      C HHDRG      R      heavy HDDV new registrations
95039      C
95040      C Notes:
95041      C
95042      C This a new BLOCK DATA, added in MOBILE3 to calculate the HDDV mileage
95043      C accumulation rates weighted by the new registrations of each class.
95044      C
95045      C      REAL LHDVM,MHDVM,HHDVM,LHDRG,MHDRG,HHDRG
95046      C
95047      C      COMMON /HDDMAR/ C2BDVM(20),LHDVM(20),MHDVM(20),HHDVM(20)
95048      C      COMMON /HDDREG/ C2BDRG(21),LHDRG(21),MHDRG(21),HHDRG(21)
95049      C
95050      C Annual average Class 2B truck mileage accumulation (divided by 100000)
95051      C
95052      C      DATA C2BDVM/
95053      C      * .18352, .16946, .15648, .14449, .13342,
95054      C      * .12320, .11376, .10504, .09700, .08956,
95055      C      * .08270, .07637, .07052, .06511, .06012,
95056      C      * .05552, .05126, .04734, .04371, .04036/
95057      C

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95058 C Annual average Light HDDV mileage accumulation (divided by 100000)
95059 C
95060 DATA LHDVM/
95061 *.45544, .39671, .34558, .30092, .26213,
95062 *.22834, .19898, .17332, .15098, .13152,
95063 *.11456, .09979, .08693, .07572, .06596,
95064 *.05746, .05005, .04360, .03798, .03308/
95065 C
95066 C Annual average medium HDDV mileage accumulation (divided by 100000)
95067 C
95068 DATA MHDVM/
95069 *.53370, .46901, .41190, .36206, .31812,
95070 *.27948, .24556, .21575, .18956, .16655,
95071 *.14632, .12856, .11296, .09925, .08719,
95072 *.07661, .06728, .05913, .05196, .04565/
95073 C
95074 C Annual average heavy HDDV mileage accumulation (divided by 100000)
95075 C
95076 DATA HHDMV/
95077 *.82288, .74984, .68328, .62263, .56737,
95078 *.51700, .47111, .42930, .39119, .35647,
95079 *.32483, .29599, .26972, .24578, .22396,
95080 *.20408, .18597, .16946, .15442, .14071/
95081 C
95082 C Annual Class 2B truck new registrations (1980- through 2000+)
95083 C
95084 DATA C2BDRG/
95085 *.000, .000, .049, .104, .185, .274, .370, .475, .588, .707,
95086 *.831, .960, 1.092, 1.225, 1.354, 1.480, 1.600, 1.712, 1.816, 1.912,
95087 *.1.999/
95088 C
95089 C Annual light HDDV new registrations (1980- through 2000+)
95090 C
95091 DATA LHDRG/
95092 *.006, .006, .009, .013, .022, .037, .053, .071, .089, .106,
95093 *.122, .137, .151, .165, .178, .190, .202, .212, .222, .230,
95094 *.238/
95095 C
95096 C Annual medium HDDV new registrations (1980- through 2000+)
95097 C
95098 DATA MHDRG/
95099 *.112, .124, .135, .141, .153, .166, .177, .185, .193, .201,
95100 *.208, .215, .222, .229, .237, .245, .253, .261, .269, .276,
95101 *.283/
95102 C
95103 C Annual heavy HDDV new registrations (1980- through 2000+)
95104 C
95105 DATA HHDRG/
95106 *.1.521, 1.581, 1.599, 1.592, 1.641, 1.719, 1.816, 1.927, 2.041, 2.151,
95107 *.2.258, 2.362, 2.471, 2.581, 2.693, 2.807, 2.914, 3.015, 3.108, 3.194,
95108 *.3.273/
95109 C
95110 END

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96058	C	SPDFLG	I	1 = user supplies one speed for all vehicle types
96059	C			2 = user supplies 8 speeds, 1 for each vehicle type
96060	C	VMFLAG	I	1 = default vmt mix
96061	C			2 = user supplies a new vmt mix for each scenario
96062	C			3 = user supplies 1 vmt mix to apply to all scenarios
96063	C			
96064	C	/FLAGS2/:		
96065	C			
96066	C	MYMRFG	I	1 = default registration distributions/mileage accrual rates
96067	C			2 = user supplies mileage accumulation rates
96068	C			3 = user supplies registration distributions
96069	C			4 = user supplies both
96070	C	NEWFLG	I	1 = use all default exhaust emission rates
96071	C			2 = replace some (not all) of the default rates
96072	C	IMFLAG	I	1 = no I/M program
96073	C			2 = specify and apply I/M program
96074	C	ALHFLG	I	1 = no special correction factors
96075	C			2 = user supplies 6 values: 1 a/c use factor, 3 extra load
96076	C			usage fractions, 1 trailer towing fraction & 1 humidity
96077	C			level
96078	C			3 = user supplies 10 values: the 6 above, except 3 instead of
96079	C			1 towing fractions plus 1 db & 1 wb temperatures
96080	C	ATPFLG	I	1 = no anti-tampering (A-T) program
96081	C			2 = specify A-T program to apply to all scenarios
96082	C			
96083	C	/FLAGS3/:		
96084	C			
96085	C	IFORM	I	various output format selections:
96086	C			1 = MOBILE1-type numerical format
96087	C			2 = MOBILE2-type numerical format
96088	C			3 = 112 column descriptive format
96089	C			4 = 80 column descriptive format
96090	C	PRTFLG	I	1 = HC only, 2 = CO only, 3 = NOx only 4 = HC, CO & NOx
96091	C	ICEVFG	I	1 = default tpd/mpd & no cc/evap HC output line
96092	C			2 = default tpd/mpd, but cc/evap HC output line is printed
96093	C			3 = user supplies tpd/mpd, but no cc/evap HC output line
96094	C			4 = user supplies tpd/mpd & cc/evap HC output line is printed
96095	C	IDLFLG	I	1 = no idle emissions output, 2 = idle emissions output
96096	C	NMHFLG	I	1 = total HC output, 2 = non-methane HC output
96097	C			
96098	C	/IMPAR1/:		
96099	C			
96100	C	ICYIM	I	I/M program start year
96101	C	ISTRIN	I	Technology I/II stringency level of I/M program
96102	C	IMTFLG	I	mechanics training flag: 1 = no & 2 = yes
96103	C	MODYR1	I	first (earliest) year included in the I/M program
96104	C	MODYR2	I	last (latest) year included in the I/M program
96105	C			
96106	C	/IMPAR2/:		
96107	C			
96108	C	ILDT	I	vehicle types included in the I/M program:
96109	C			1 = LDGV only
96110	C			2 = LDGV & LDGT1
96111	C			3 = LDGV & LDGT2
96112	C			4 = LDGV, LDGT1 & LDGT2
96113	C	ITEST	I	technology IV+ test type:
96114	C			1 = idle test
96115	C			2 = 2500 rpm idle test

Appendix C: MOBILE3 Block Data 26

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96116	C		3 = loaded idle test
96117	C	ICUTS I	Technology IV+ cuts:
96118	C		1 = 0.5 % CO and 100 ppm HC
96119	C		2 = 1.2 % CO and 220 ppm HC
96120	C		3 = 3.0 % CO and 300 ppm HC
96121	C	NUDATA I	new I/M credits data flag:
96122	C		1 = use all default I/M credits
96123	C		2 = replace Tech I/II I/M credits
96124	C		3 = replace Tech IV+ I/M credits
96125	C		4 = replace all I/M credits
96126	C	NLIM I	number of lines in the I/M credits file title
96127	C	IMNAME I	I/M credits file title (usually program type)
96128	C		
96129	C	/LNKCOM/:	
96130	C		
96131	C	SPD R	user supplied average speeds of 8 vehicle types
96132	C	AMBT R	user supplied ambient temperature
96133	C	PCCN R	user supplied % in cold start mode by non-catalyst
96134	C		equipped vehicle types
96135	C	PCHC R	user supplied % in hot start mode by catalyst
96136	C		equipped vehicle types
96137	C	PCCC R	user supplied % in cold start mode by catalyst
96138	C		equipped vehicle types
96139	C		
96140	C	/MYRCAL/:	
96141	C		
96142	C	XMYM R	January 1 model year mileage accumulation rates used to
96143	C		compute CUMMIL
96144	C	JANMYR R	January 1 registration distributions
96145	C	TF R	travel weighting fractions
96146	C	TFMYM R	January 1 mileage accumulation rates used to compute TF
96147	C		
96148	C	/NEWCOM/:	
96149	C		
96150	C	NEWPAR R	parameters identifying where (region, vehicle type and
96151	C		pollutant) and when (first & last model years included)
96152	C		to use new (user supplied) emission rates
96153	C	BERNEW R	intercept and slope of user supplied emission rates
96154	C	NEWFIT I	whether or not (1 or 0) user supplied emission rate
96155	C		information can be fit into the affected data arrays
96156	C		(no => the new rate is not stored & not used)
96157	C	NEWCT I	count of number of sets of new emission rate specifications
96158	C		entered by user (not necessarily the number actually used -
96159	C		see NEWFIT)
96160	C		
96161	C	/OFFCOM/:	
96162	C		
96163	C	OFFCO R	CO offset to basic emission rate
96164	C	OFFMTH R	methane offset to basic emission rate
96165	C		
96166	C	/PROJCM/:	
96167	C		
96168	C	PROJID R	user supplied project (i.e., run) title
96169	C		
96170	C	/REGCOM/:	
96171	C		
96172	C	IREJN I	user supplied region code: 1 = low altitude, 2 = high
96173	C		1 = low altitude region

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96174 C      2 = high altitude region
96175 C ALT      R      altitude in feet
96176 C
96177 C /REGSUM/:
96178 C
96179 C GSFVCT  R      fleet gasoline/diesel sales fractions used to split LDV, LDT
96180 C
96181 C /RESULT/:
96182 C
96183 C EFFTP    R      composite (3 bag cycle weighted) FTP emission factor for each
96184 C              IV9 class
96185 C WFTP     R      FTP emission factor for each IV class weighted by
96186 C              corresponding normalized vmt mix fraction and summed together
96187 C EFEVAP   R      HC evaporative emission factor for each IV9 class
96188 C EFIDLE   R      hot stabilized idle emission factor for each IV9 class
96189 C WIDLE    R      idle emission factor for each IV class weighted by
96190 C              corresponding normalized vmt mix fraction and summed together
96191 C
96192 C /RET1/:
96193 C
96194 C ALHRET   R      combined correction factor derived from user supplied data
96195 C              on a/c, extra load & trailer towing usage and on ambient
96196 C              humidity & temperature.
96197 C
96198 C /XCFS1/:
96199 C
96200 C AC       R      a/c usage factor
96201 C XLOAD    R      extra load usage fractions
96202 C TRAILR   R      trailer towing usage fractions
96203 C ABSHUM   R      absolute humidity level
96204 C DB       R      dry bulb temperature
96205 C WB       R      wet bulb temperature
96206 C
96207 COMMON /CEVCOM/ USRTPD (8) ,USRMPD (8)
96208 COMMON /CUMCOM/ CUMMIL (20,8)
96209 COMMON /FLAGS1/ IPROMT,TAMFLG,SPDFLG,VMFLAG
96210 COMMON /FLAGS2/ MYMRFG,NEWFLG,IMFLAG,ALHFLG,ATPFLG
96211 COMMON /FLAGS3/ IFORM, PRTFLG,ICEVFG,IDLFLG,NMHFLG
96212 COMMON /IMPAR1/ ICYIM,ISTRIN,IMTFLG,MODYR1,MODYR2
96213 COMMON /IMPAR2/ ILDT,ITEST,ICUTS,NUDATA,NLIM,IMNAME (20,9)
96214 COMMON /LNKCOM/ SPD (8) ,AMBT,PCCN,PCHC,PCCC
96215 COMMON /MYRCAL/ XMYM (20,8) ,JANMYR (20,8) ,TF (20,8) ,TFMYM (20,8)
96216 COMMON /NEWCOM/ NEWPAR (5,100) ,BERNEW (2,100) ,NEWFIT (100) ,NEWCT
96217 COMMON /OFFCOM/ OFFCO (20,3) ,OFFMTH (20,8)
96218 COMMON /PROJCM/ PROJID (20)
96219 COMMON /REGCOM/ IREJN,ALT
96220 COMMON /REGSUM/ GSFVCT (8)
96221 COMMON /RESULT/ EFFTP (3,9) ,WFTP (3) ,EFEVAP (9) ,EFIDLE (3,9) ,WIDLE (3)
96222 COMMON /RET1/  ALHRET (20,4,3)
96223 COMMON /XCFS1/  AC,XLOAD (3) ,TRAILR (3) ,ABSHUM,DB,WB
96224 C
96225 C      END

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Appendix D

ANTI-TAMPERING PROGRAM MATRICES

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Annual (Non-I/M)	Inspect Air Pump, Catalyst, Fuel Inlet & Canister	651 - 700	D-14
Annual	Inspect Catalyst, Fuel Inlet (and Plumbtesmo) & Canister	701 - 750	D-15
Annual	Inspect Air Pump, Catalyst, Fuel Inlet (and Plumbtesmo) & Canister	751 - 800	D-16
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Annual (I/M)	Inspect Air Pump, Catalyst, Fuel Inlet & Canister & PCV	1751 - 1800	D-36
Biennial	Inspect Air Pump Only	1801 - 1850	D-37
Biennial	Inspect Catalyst Only	1851 - 1900	D-38
Biennial	Inspect Air Pump & Catalyst	1901 - 1950	D-39
Biennial (Non-I/M)	Inspect Catalyst & Fuel Inlet	1951 - 2000	D-40
Biennial (Non-I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	2001 - 2050	D-41
Biennial	Inspect Catalyst & Fuel Inlet (and Plumbtesmo)	2051 - 2100	D-42
Biennial	Inspect Air Pump, Catalyst & Fuel Inlet (and Plumbtesmo)	2101 - 2150	D-43
Biennial (I/M)	Inspect Catalyst & Fuel Inlet	2151 - 2200	D-44
Biennial (I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	2201 - 2250	D-45
Biennial	Inspect Air Pump & Canister	2251 - 2300	D-46
Biennial	Inspect Catalyst & Canister	2301 - 2350	D-47
Biennial	Inspect Air Pump, Catalyst & Canister	2351 - 2400	D-48
Biennial (Non-I/M)	Inspect Catalyst, Fuel Inlet & Canister	2401 - 2450	D-49
Biennial (Non-I/M)	Inspect Air Pump, Catalyst, Fuel Inlet & Canister	2451 - 2500	D-50
Biennial	Inspect Catalyst, Fuel Inlet (and Plumbtesmo) & Canister	2501 - 2550	D-51
Biennial	Inspect Air Pump, Catalyst, Fuel Inlet (and Plumbtesmo) & Canister	2551 - 2600	D-52
Biennial (I/M)	Inspect Catalyst, Fuel Inlet & Canister	2601 - 2650	D-53
Biennial (I/M)	Inspect Air Pump, Catalyst, Fuel Inlet & Canister	2651 - 2700	D-54

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Program Type	Description of Inspection	Line Numbers	Page
Biennial	Inspect Air Pump & PCV	2701 - 2750	D-55
Biennial	Inspect Catalyst & PCV	2751 - 2800	D-56
Biennial	Inspect Air Pump, Catalyst & PCV	2801 - 2850	D-57
Biennial (Non-I/M)	Inspect Catalyst, Fuel Inlet & PCV	2851 - 2900	D-58
Biennial (Non-I/M)	Inspect Air Pump, Catalyst, Fuel Inlet & PCV	2901 - 2950	D-59
Biennial	Inspect Catalyst, Fuel Inlet (and Plumbtesmo) & PCV	2951 - 3000	D-60
Biennial	Inspect Air Pump, Catalyst, Fuel Inlet (and Plumbtesmo) & PCV	3001 - 3050	D-61
Biennial (I/M)	Inspect Catalyst, Fuel Inlet & PCV	3051 - 3100	D-62
Biennial (I/M)	Inspect Air Pump, Catalyst, Fuel Inlet & PCV	3101 - 3150	D-63
Biennial	Inspect Air Pump, Canister & PCV	3151 - 3200	D-64
Biennial	Inspect Catalyst, Canister & PCV	3201 - 3250	D-65
Biennial	Inspect Air Pump, Catalyst, Canister & PCV	3251 - 3300	D-66
Biennial (Non-I/M)	Inspect Catalyst, Fuel Inlet, Canister & PCV	3301 - 3350	D-67
Biennial (Non-I/M)	Inspect Air Pump, Catalyst, Fuel Inlet, Canister & PCV	3351 - 3400	D-68
Biennial	Inspect Catalyst, Fuel Inlet (and Plumbtesmo), Canister & PCV	3401 - 3450	D-69
Biennial	Inspect Air Pump, Catalyst, Fuel Inlet (and Plumbtesmo), Canister & PCV	3451 - 3500	D-70
Biennial (I/M)	Inspect Catalyst, Fuel Inlet & Canister & PCV	3501 - 3550	D-71
Biennial (I/M)	Inspect Air Pump, Catalyst, Fuel Inlet & Canister & PCV	3551 - 3600	D-72
Change of Ownership	Inspect Air Pump Only	3601 - 3650	D-73
Change of Ownership	Inspect Catalyst Only	3651 - 3700	D-74
Change of Ownership	Inspect Air Pump & Catalyst	3701 - 3750	D-75
Change of Ownership (Non-I/M)	Inspect Catalyst & Fuel Inlet	3751 - 3800	D-76
Change of Ownership (Non-I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	3801 - 3850	D-77
Change of Ownership	Inspect Catalyst & Fuel Inlet (and Plumbtesmo)	3851 - 3900	D-78
Change of Ownership	Inspect Air Pump, Catalyst & Fuel Inlet (and Plumbtesmo)	3901 - 3950	D-79
Change of Ownership (I/M)	Inspect Catalyst & Fuel Inlet	3951 - 4000	D-80
Change of Ownership (I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	4001 - 4050	D-81

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<u>Program Type</u>	<u>Description of Inspection</u>	<u>Line Numbers</u>	<u>Page</u>
Random Audit (1%)	Inspect Air Pump Only	4051 - 4100	D-82
Random Audit (1%)	Inspect Catalyst Only	4101 - 4150	D-83
Random Audit (1%)	Inspect Air Pump & Catalyst	4151 - 4200	D-84
Random Audit (1%) (Non-I/M)	Inspect Catalyst & Fuel Inlet	4201 - 4250	D-85
Random Audit (1%) (Non-I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	4251 - 4300	D-86
Random Audit (1%)	Inspect Catalyst & Fuel Inlet (and Plumbtesmo)	4301 - 4350	D-87
Random Audit (1%)	Inspect Air Pump, Catalyst & Fuel Inlet (and Plumbtesmo)	4351 - 4400	D-88
Random Audit (1%) (I/M)	Inspect Catalyst & Fuel Inlet	4401 - 4450	D-89
Random Audit (1%) (I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	4451 - 4500	D-90
Random Audit (2%)	Inspect Air Pump Only	4501 - 4550	D-91
Random Audit (2%)	Inspect Catalyst Only	4551 - 4600	D-92
Random Audit (2%)	Inspect Air Pump & Catalyst	4601 - 4650	D-93
Random Audit (2%) (Non-I/M)	Inspect Catalyst & Fuel Inlet	4651 - 4700	D-94
Random Audit (2%) (Non-I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	4701 - 4750	D-95
Random Audit (2%)	Inspect Catalyst & Fuel Inlet (and Plumbtesmo)	4751 - 4800	D-96
Random Audit (2%)	Inspect Air Pump, Catalyst & Fuel Inlet (and Plumbtesmo)	4801 - 4850	D-97
Random Audit (2%) (I/M)	Inspect Catalyst & Fuel Inlet	4851 - 4900	D-98
Random Audit (2%) (I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	4901 - 4950	D-99
Random Audit (5%)	Inspect Air Pump Only	4951 - 5000	D-100
Random Audit (5%)	Inspect Catalyst Only	5001 - 5050	D-101
Random Audit (5%)	Inspect Air Pump & Catalyst	5051 - 5100	D-102
Random Audit (5%) (Non-I/M)	Inspect Catalyst & Fuel Inlet	5101 - 5150	D-103
Random Audit (5%) (Non-I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	5151 - 5200	D-104
Random Audit (5%)	Inspect Catalyst & Fuel Inlet (and Plumbtesmo)	5201 - 5250	D-105
Random Audit (5%)	Inspect Air Pump, Catalyst & Fuel Inlet (and Plumbtesmo)	5251 - 5300	D-106
Random Audit (5%) (I/M)	Inspect Catalyst & Fuel Inlet	5301 - 5350	D-107
Random Audit (5%) (I/M)	Inspect Air Pump, Catalyst & Fuel Inlet	5351 - 5400	D-108
No Program	No Reductions	5401 - 5450	D-109

[illegible]

51	4												
52	**												
53	**												
54	** ANNUAL : INSPECT CATALYST ONLY												
55	**												
56	1.00	1.00	1.00	1.00								EVAP/PCV	
57	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
58	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
59	.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK	
60	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
61	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
62	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
63	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
64	0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR	
65	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
66	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	.00	NCK	
67	.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK	
68	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
69	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
70	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
71	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
72	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
73	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
74	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
75	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
76	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
77	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
78	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
79	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)	
80	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
81	.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK	
82	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
83	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
84	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
85	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
86	0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR	
87	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
88	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	.00	NCK	
89	.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK	
90	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
91	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
92	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
93	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
94	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
95	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
96	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
97	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
98	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
99	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
100	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

101	4											
102	**											
103	**											
104	** ANNUAL : INSPECT AIR PUMP & CATALYST ONLY											
105	**											
106	1.00 1.00 1.00 1.00											EVAP/PCV
107	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											AIR/CAT (PREVIOUS)
108	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00											AIR/NCK
109	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00											AIR/TNK
110	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00											AIR/CAT/NCK
111	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00											AIR/CAT/TNK
112	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00											CAT/NCK
113	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00											CAT/TNK
114	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00											AIR
115	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00											CAT
116	.00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 .00											NCK
117	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00											TNK
118	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT (PREVIOUS)
119	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/NCK
120	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/TNK
121	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT/NCK
122	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00											EGR/CAT/TNK
123	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00											CAT/NCK
124	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00											CAT/TNK
125	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00											EGR
126	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00											CAT
127	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00											NCK
128	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00											TNK
129	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											AIR/CAT (PREVIOUS)
130	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00											AIR/NCK
131	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00											AIR/TNK
132	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00											AIR/CAT/NCK
133	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00											AIR/CAT/TNK
134	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00											CAT/NCK
135	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00											CAT/TNK
136	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00											AIR
137	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00											CAT
138	.00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 .00											NCK
139	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00											TNK
140	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT (SUBSEQUENT)
141	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/NCK
142	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/TNK
143	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT/NCK
144	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00											EGR/CAT/TNK
145	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00											CAT/NCK
146	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00											CAT/TNK
147	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00											EGR
148	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00											CAT
149	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00											NCK
150	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00											TNK

[illegible]

201	4
202	☆☆
203	☆☆ ANNUAL : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY
204	☆☆ (NON-I/M AREAS ONLY)
205	☆☆
206	1.00 1.00 1.00 1.00 EVAP/PCV
207	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
208	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
209	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/TNK
210	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
211	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
212	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
213	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
214	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 AIR
215	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
216	.00 0.63 .00 0.47 .00 0.62 .00 .00 .00 0.83 .00 NCK
217	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 TNK
218	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
219	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
220	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
221	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
222	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
223	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
224	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
225	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
226	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
227	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
228	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
229	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
230	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
231	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/TNK
232	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
233	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
234	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
235	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
236	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 AIR
237	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
238	.00 0.50 .00 0.50 .00 0.65 .00 .00 .00 0.70 .00 NCK
239	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 TNK
240	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
241	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
242	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
243	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
244	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
245	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
246	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
247	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
248	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
249	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
250	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

251	4											
252	**											
253	**											
254	** ANNUAL : INSPECT CATALYST & FUEL INLET (AND PLUMBTESMO)											
255	**											
256	1.00 1.00 1.00 1.00											EVAP/PCV
257	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											AIR/CAT (PREVIOUS)
258	.00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 .00 .00											AIR/NCK
259	.00 .00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 .00											AIR/TNK
260	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00											AIR/CAT/NCK
261	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00											AIR/CAT/TNK
262	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00											CAT/NCK
263	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00											CAT/TNK
264	0.95 0.75 0.75 0.75 0.75 .00 .00 1.00 .00 .00 .00 .00											AIR
265	.00 .00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00											CAT
266	.00 .00 .00 .00 .00 0.20 .00 .00 .00 .00 0.25 .00											NCK
267	.00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 .00 0.25											TNK
268	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT (PREVIOUS)
269	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/NCK
270	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/TNK
271	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT/NCK
272	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT/TNK
273	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00											CAT/NCK
274	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00											CAT/TNK
275	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00											EGR
276	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00											CAT
277	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00											NCK
278	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00											TNK
279	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											AIR/CAT (SUBSEQUENT)
280	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 .00											AIR/NCK
281	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00											AIR/TNK
282	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00											AIR/CAT/NCK
283	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00											AIR/CAT/TNK
284	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00											CAT/NCK
285	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00											CAT/TNK
286	0.95 0.85 0.85 0.85 0.85 .00 .00 1.00 .00 .00 .00 .00											AIR
287	.00 .00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00											CAT
288	.00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 .00											NCK
289	.00 .00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15											TNK
290	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT (SUBSEQUENT)
291	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/NCK
292	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/TNK
293	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT/NCK
294	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00											EGR/CAT/TNK
295	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00											CAT/NCK
296	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00											CAT/TNK
297	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00											EGR
298	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00											CAT
299	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00											NCK
300	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00											TNK

301	4												
302	**												
303	**												
304	**	ANNUAL : INSPECT AIR PUMP, CATALYST & FUEL INLET (AND PLUMBTESMO)											
305	**												
306		1.00	1.00	1.00	1.00							EVAP/PCV	
307		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
308		.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/NCK	
309		.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	AIR/TNK	
310		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
311		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
312		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
313		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
314		0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	AIR	
315		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
316		.00	0.05	.00	0.05	.00	0.20	.00	.00	.00	0.25	NCK	
317		.00	.00	0.05	.00	0.05	.00	0.20	.00	.00	.00	0.25	TNK
318		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
319		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
320		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
321		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
322		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
323		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
324		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
325		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
326		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
327		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
328		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
329		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
330		.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
331		.00	.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	AIR/TNK
332		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
333		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
334		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
335		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
336		0.15	0.05	0.05	0.05	0.05	.00	.00	0.20	.00	.00	.00	AIR
337		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
338		.00	.00	.00	.00	.00	.00	0.10	.00	.00	0.15	.00	NCK
339		.00	.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	TNK
340		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
341		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
342		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
343		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
344		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
345		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
346		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
347		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
348		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
349		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
350		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

351	4
352	**
353	** ANNUAL : INSPECT CATALYST & FUEL INLET ONLY
354	** (I/M AREAS ONLY)
355	**
356	1.00 1.00 1.00 1.00 EVAP/PCV
357	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
358	.00 0.67 .00 0.36 .00 .00 .00 .00 .00 .00 AIR/NCK
359	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
360	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
361	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
362	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
363	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
364	0.95 0.33 .00 0.59 .00 .00 .00 1.00 .00 .00 AIR
365	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
366	.00 .00 .00 .00 .00 .00 0.36 .00 .00 0.67 NCK
367	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
368	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
369	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
370	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
371	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
372	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
373	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
374	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
375	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
376	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
377	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
378	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
379	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
380	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/NCK
381	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
382	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
383	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
384	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
385	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
386	0.95 0.70 .00 0.70 .00 .00 .00 1.00 .00 .00 AIR
387	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
388	.00 .00 .00 .00 .00 .00 0.25 .00 .00 0.30 NCK
389	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
390	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
391	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
392	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
393	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
394	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
395	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
396	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
397	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
398	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
399	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
400	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

[illegible]

451	4
452	☆☆
453	☆☆
454	☆☆ ANNUAL : INSPECT AIR PUMP & CANISTER
455	☆☆
456	0.30 1.00 0.30 1.00 EVAP/PCV
457	0.20 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
458	.00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
459	.00 .00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
460	.00 .00 .00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
461	.00 .00 .00 .00 0.20 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
462	.00 .00 .00 0.80 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
463	.00 .00 .00 .00 0.80 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
464	.00 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 .00 AIR
465	0.80 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
466	.00 0.80 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
467	.00 .00 0.80 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
468	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
469	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
470	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
471	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
472	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
473	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
474	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
475	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
476	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
477	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
478	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
479	0.20 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
480	.00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
481	.00 .00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
482	.00 .00 .00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
483	.00 .00 .00 .00 0.20 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
484	.00 .00 .00 0.80 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
485	.00 .00 .00 .00 0.80 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
486	.00 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 .00 AIR
487	0.80 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
488	.00 0.80 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
489	.00 .00 0.80 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
490	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
491	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
492	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
493	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
494	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
495	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
496	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
497	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
498	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
499	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
500	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK

501	4
502	**
503	**
504	** ANNUAL : INSPECT CATALYST & CANISTER
505	**
506	0.30 1.00 0.30 1.00 EVAP/PCV
507	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
508	.00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/NCK
509	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
510	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
511	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
512	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
513	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
514	0.95 .00 .00 .00 .00 .00 .00 1.00 .00 .00 AIR
515	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
516	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 .00 NCK
517	.00 .00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
518	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
519	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
520	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
521	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
522	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
523	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
524	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
525	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
526	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
527	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
528	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
529	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
530	.00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
531	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
532	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
533	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
534	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
535	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
536	0.95 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 AIR
537	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
538	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 .00 NCK
539	.00 .00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
540	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
541	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
542	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
543	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
544	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
545	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
546	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
547	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
548	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
549	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
550	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

[illegible]

601	4												
602	**												
603	**	ANNUAL : INSPECT CATALYST, FUEL INLET & CANISTER											
604	**	(NON-I/M AREAS ONLY)											
605	**												
606		0.30	1.00	0.30	1.00							EVAP/PCV	
607		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
608		.00	0.83	.00	0.62	.00	.00	.00	.00	.00	.00	AIR/NCK	
609		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK	
610		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
611		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
612		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
613		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
614		0.95	0.17	.00	0.33	.00	.00	.00	1.00	.00	.00	AIR	
615		.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
616		.00	.00	.00	.00	.00	0.62	.00	.00	.00	0.83	NCK	
617		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	TNK	
618		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
619		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
620		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
621		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
622		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
623		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
624		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
625		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
626		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
627		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
628		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
629		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
630		.00	0.70	.00	0.65	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
631		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK
632		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
633		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
634		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
635		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
636		0.95	0.30	.00	0.30	.00	.00	.00	1.00	.00	.00	.00	AIR
637		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
638		.00	.00	.00	.00	.00	.00	0.65	.00	.00	.00	0.70	NCK
639		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
640		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
641		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
642		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
643		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
644		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
645		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
646		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
647		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
648		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
649		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
650		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

[illegible]

751	4
752	**
753	** ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET (AND PLUMBESMO)
754	** & CANISTER
755	**
756	0.30 1.00 0.30 1.00 EVAP/PCV
757	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
758	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
759	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/TNK
760	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
761	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
762	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
763	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
764	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 AIR
765	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
766	.00 0.05 .00 0.05 .00 0.20 .00 .00 .00 0.25 .00 NCK
767	.00 .00 0.05 .00 0.05 .00 0.20 .00 .00 .00 0.25 TNK
768	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
769	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
770	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
771	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
772	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
773	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
774	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
775	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
776	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
777	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
778	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
779	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
780	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
781	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 AIR/TNK
782	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
783	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
784	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
785	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
786	0.15 0.05 0.05 0.05 0.05 .00 .00 0.20 .00 .00 .00 AIR
787	.00 .00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
788	.00 .00 .00 .00 .00 .00 0.10 .00 .00 0.15 .00 NCK
789	.00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 TNK
790	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
791	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
792	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
793	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
794	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
795	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
796	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
797	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
798	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
799	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
800	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

801	4											
802	**											
803	**	ANNUAL : INSPECT CATALYST, FUEL INLET & CANISTER										
804	**	(I/M AREAS ONLY)										
805	**											
806		0.30	1.00	0.30	1.00							EVAP/PCV
807		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
808		.00	0.67	.00	0.36	.00	.00	.00	.00	.00	.00	AIR/NCK
809		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK
810		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
811		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK
812		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK
813		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK
814		0.95	0.33	.00	0.59	.00	.00	.00	1.00	.00	.00	AIR
815		.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
816		.00	.00	.00	.00	.00	0.36	.00	.00	0.67	.00	NCK
817		.00	.00	.00	.00	.00	.00	0.95	.00	.00	1.00	TNK
818		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
819		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
820		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
821		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
822		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
823		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK
824		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK
825		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR
826		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT
827		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK
828		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
829		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
830		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/NCK
831		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK
832		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
833		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK
834		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK
835		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK
836		0.95	0.70	.00	0.70	.00	.00	.00	1.00	.00	.00	AIR
837		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT
838		.00	.00	.00	.00	.00	0.25	.00	.00	.00	0.30	NCK
839		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	TNK
840		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
841		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
842		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
843		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
844		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
845		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK
846		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK
847		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR
848		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT
849		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK
850		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

851	4											
852	**											
853	**	ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET & CANISTER										
854	**	(I/M AREAS ONLY)										
855	**											
856	0.30	1.00	0.30	1.00								EVAP/PCV
857	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
858	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
859	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK
860	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
861	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
862	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
863	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
864	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR
865	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
866	.00	0.47	.00	0.21	.00	0.36	.00	.00	.00	0.67	.00	NCK
867	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK
868	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
869	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
870	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
871	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
872	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
873	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
874	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
875	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
876	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
877	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
878	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
879	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
880	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
881	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK
882	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
883	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
884	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
885	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
886	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR
887	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
888	.00	0.10	.00	0.10	.00	0.25	.00	.00	.00	0.30	.00	NCK
889	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK
890	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
891	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
892	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
893	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
894	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
895	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
896	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
897	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
898	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
899	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
900	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

901	4												
902	**												
903	**												
904	**	ANNUAL : INSPECT AIR PUMP & PCV											
905	**												
906		1.00	0.30	1.00	0.30								EVAP/PCV
907		0.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
908		.00	0.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
909		.00	.00	0.20	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK
910		.00	.00	.00	0.20	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
911		.00	.00	.00	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
912		.00	.00	.00	0.80	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
913		.00	.00	.00	.00	0.80	.00	1.00	.00	.00	.00	.00	CAT/TNK
914		.00	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR
915		0.80	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
916		.00	0.80	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
917		.00	.00	0.80	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
918		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
919		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
920		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
921		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
922		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
923		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
924		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
925		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
926		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
927		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
928		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
929		0.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
930		.00	0.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
931		.00	.00	0.20	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK
932		.00	.00	.00	0.20	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
933		.00	.00	.00	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
934		.00	.00	.00	0.80	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
935		.00	.00	.00	.00	0.80	.00	1.00	.00	.00	.00	.00	CAT/TNK
936		.00	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR
937		0.80	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
938		.00	0.80	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
939		.00	.00	0.80	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
940		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
941		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
942		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
943		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
944		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
945		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
946		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
947		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
948		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
949		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
950		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

951	4												
952	**												
953	**												
954	**	ANNUAL : INSPECT CATALYST & PCV											
955	**												
956		1.00	0.30	1.00	0.30								EVAP/PCV
957		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
958		.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
959		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK
960		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
961		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
962		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
963		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
964		0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR
965		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
966		.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	.00	NCK
967		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
968		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
969		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
970		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
971		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
972		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
973		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
974		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
975		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
976		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
977		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
978		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
979		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
980		.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
981		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK
982		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
983		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
984		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
985		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
986		0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR
987		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
988		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	NCK
989		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
990		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
991		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
992		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
993		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
994		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
995		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
996		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
997		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
998		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
999		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1000		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

1001	4												
1002	**												
1003	**												
1004	** ANNUAL :	INSPECT AIR PUMP, CATALYST & PCV											
1005	**												
1006	1.00	0.30	1.00	0.30								EVAP/PCV	
1007	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1008	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
1009	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK	
1010	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1011	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1012	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
1013	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
1014	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR	
1015	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1016	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	.00	NCK	
1017	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK	
1018	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1019	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1020	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1021	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1022	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1023	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
1024	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
1025	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
1026	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
1027	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1028	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
1029	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1030	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
1031	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK	
1032	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1033	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1034	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
1035	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
1036	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR	
1037	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1038	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	.00	NCK	
1039	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK	
1040	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
1041	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1042	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1043	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1044	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1045	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
1046	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
1047	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
1048	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
1049	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1050	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

1051	4
1052	**
1053	** ANNUAL : INSPECT CATALYST, FUEL INLET & PCV
1054	** (NON-I/M AREAS ONLY)
1055	**
1056	1.00 0.30 1.00 0.30 EVAP/PCV
1057	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1058	.00 0.83 .00 0.62 .00 .00 .00 .00 .00 .00 AIR/NCK
1059	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
1060	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1061	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
1062	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
1063	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
1064	0.95 0.17 .00 0.33 .00 .00 .00 1.00 .00 .00 AIR
1065	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
1066	.00 .00 .00 .00 .00 0.62 .00 .00 .00 0.83 NCK
1067	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
1068	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
1069	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1070	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1071	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1072	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1073	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
1074	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
1075	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
1076	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
1077	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
1078	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
1079	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
1080	.00 0.70 .00 0.65 .00 .00 .00 .00 .00 .00 AIR/NCK
1081	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
1082	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1083	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
1084	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
1085	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
1086	0.95 0.30 .00 0.30 .00 .00 .00 1.00 .00 .00 AIR
1087	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
1088	.00 .00 .00 .00 .00 .00 0.65 .00 .00 0.70 NCK
1089	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
1090	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
1091	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1092	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1093	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1094	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1095	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
1096	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
1097	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
1098	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
1099	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
1100	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

1101	4												
1102	**												
1103	**	ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET & PCV											
1104	**	(NON-I/M AREAS ONLY)											
1105	**												
1106		1.00	0.30	1.00	0.30							EVAP/PCV	
1107		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1108		.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/NCK	
1109		.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	AIR/TNK	
1110		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1111		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1112		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
1113		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
1114		0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	AIR	
1115		.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1116		.00	0.63	.00	0.47	.00	0.62	.00	.00	.00	0.83	NCK	
1117		.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	1.00	TNK	
1118		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1119		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1120		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1121		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1122		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1123		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
1124		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
1125		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
1126		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
1127		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1128		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
1129		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1130		.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/NCK	
1131		.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	AIR/TNK	
1132		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1133		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1134		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
1135		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
1136		0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	AIR	
1137		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
1138		.00	0.50	.00	0.50	.00	0.65	.00	.00	.00	0.70	NCK	
1139		.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	1.00	TNK	
1140		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
1141		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1142		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1143		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1144		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1145		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
1146		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
1147		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
1148		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
1149		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
1150		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

1151	4												
1152	**												
1153	**												
1154	**	ANNUAL : INSPECT CATALYST, FUEL INLET (AND PLUMBTESMO) & PCV											
1155	**												
1156		1.00	0.30	1.00	0.30								EVAP/PCV
1157		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
1158		.00	0.25	.00	0.20	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1159		.00	.00	0.25	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/TNK
1160		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1161		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1162		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
1163		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
1164		0.95	0.75	0.75	0.75	0.75	.00	.00	1.00	.00	.00	.00	AIR
1165		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
1166		.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	.00	NCK
1167		.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	TNK
1168		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
1169		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1170		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1171		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1172		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1173		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1174		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1175		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1176		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1177		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1178		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
1179		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
1180		.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1181		.00	.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	AIR/TNK
1182		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1183		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1184		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
1185		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
1186		0.95	0.85	0.85	0.85	0.85	.00	.00	1.00	.00	.00	.00	AIR
1187		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
1188		.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	.00	NCK
1189		.00	.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	TNK
1190		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
1191		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1192		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1193		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1194		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1195		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1196		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1197		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1198		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1199		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1200		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

1201	4
1202	☆☆
1203	☆☆ ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET (AND PLUMBESMO)
1204	☆☆ & PCV
1205	☆☆
1206	1.00 0.30 1.00 0.30 EVAP/PCV
1207	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1208	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1209	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
1210	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1211	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1212	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
1213	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
1214	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 .00 AIR
1215	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT
1216	.00 0.05 .00 0.05 .00 0.20 .00 .00 .00 0.25 .00 .00 NCK
1217	.00 .00 0.05 .00 0.05 .00 0.20 .00 .00 .00 0.25 TNK
1218	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
1219	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1220	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1221	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1222	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1223	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
1224	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
1225	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
1226	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
1227	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
1228	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
1229	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
1230	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1231	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
1232	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1233	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1234	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
1235	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
1236	0.15 0.05 0.05 0.05 0.05 .00 .00 .00 0.20 .00 .00 .00 AIR
1237	.00 .00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1238	.00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 .00 NCK
1239	.00 .00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 TNK
1240	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
1241	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1242	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1243	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1244	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1245	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
1246	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
1247	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
1248	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
1249	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
1250	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

1251	4
1252	**
1253	** ANNUAL : INSPECT CATALYST, FUEL INLET & PCV
1254	** (I/M AREAS ONLY)
1255	**
1256	1.00 0.30 1.00 0.30 EVAP/PCV
1257	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1258	.00 0.67 .00 0.36 .00 .00 .00 .00 .00 .00 AIR/NCK
1259	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
1260	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1261	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
1262	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
1263	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
1264	0.95 0.33 .00 0.59 .00 .00 .00 1.00 .00 .00 AIR
1265	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
1266	.00 .00 .00 .00 .00 0.36 .00 .00 .00 0.67 NCK
1267	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
1268	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
1269	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1270	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1271	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1272	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1273	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
1274	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
1275	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
1276	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
1277	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
1278	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
1279	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
1280	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/NCK
1281	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
1282	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1283	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
1284	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
1285	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
1286	0.95 0.70 .00 0.70 .00 .00 .00 1.00 .00 .00 AIR
1287	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
1288	.00 .00 .00 .00 .00 0.25 .00 .00 .00 0.30 NCK
1289	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
1290	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
1291	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1292	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1293	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1294	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1295	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
1296	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
1297	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
1298	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
1299	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
1300	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

1301	4
1302	**
1303	** ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET & PCV
1304	** (I/M AREAS ONLY) *
1305	**
1306	1.00 0.30 1.00 0.30 EVAP/PCV
1307	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1308	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1309	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/TNK
1310	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1311	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1312	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
1313	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
1314	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 AIR
1315	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1316	.00 0.47 .00 0.21 .00 0.36 .00 .00 .00 0.67 .00 NCK
1317	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 TNK
1318	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
1319	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1320	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1321	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1322	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1323	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
1324	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
1325	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
1326	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
1327	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
1328	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
1329	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
1330	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1331	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/TNK
1332	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1333	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1334	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
1335	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
1336	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 AIR
1337	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1338	.00 0.10 .00 0.10 .00 0.25 .00 .00 .00 0.30 .00 NCK
1339	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 TNK
1340	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
1341	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1342	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1343	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1344	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1345	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
1346	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
1347	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
1348	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
1349	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
1350	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

1351	4												
1352	**												
1353	**												
1354	**	ANNUAL : INSPECT AIR PUMP, CANISTER & PCV											
1355	**												
1356		0.30	0.30	0.30	0.30							EVAP/PCV	
1357		0.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1358		.00	0.20	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
1359		.00	.00	0.20	.00	.00	.00	.00	.00	.00	.00	AIR/TNK	
1360		.00	.00	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1361		.00	.00	.00	.00	0.20	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1362		.00	.00	.00	0.80	.00	1.00	.00	.00	.00	.00	CAT/NCK	
1363		.00	.00	.00	.00	0.80	.00	1.00	.00	.00	.00	CAT/TNK	
1364		.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR	
1365		0.80	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
1366		.00	0.80	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1367		.00	.00	0.80	.00	.00	.00	.00	.00	.00	1.00	TNK	
1368		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1369		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1370		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1371		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1372		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1373		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
1374		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
1375		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
1376		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
1377		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
1378		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
1379		0.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
1380		.00	0.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1381		.00	.00	0.20	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK
1382		.00	.00	.00	0.20	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1383		.00	.00	.00	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1384		.00	.00	.00	0.80	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1385		.00	.00	.00	.00	0.80	.00	1.00	.00	.00	.00	.00	CAT/TNK
1386		.00	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR
1387		0.80	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1388		.00	0.80	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1389		.00	.00	0.80	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
1390		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
1391		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1392		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1393		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1394		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1395		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1396		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1397		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1398		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1399		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1400		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

1401	4												
1402	***												
1403	***												
1404	***	ANNUAL : INSPECT CATALYST, CANISTER & PCV											
1405	***												
1406		0.30	0.30	0.30	0.30							EVAP/PCV	
1407		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1408		.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/NCK	
1409		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK	
1410		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1411		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1412		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
1413		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
1414		0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	AIR	
1415		.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1416		.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	NCK	
1417		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
1418		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1419		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1420		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1421		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1422		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1423		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
1424		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
1425		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
1426		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
1427		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
1428		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
1429		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
1430		.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1431		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK
1432		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1433		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1434		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
1435		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
1436		0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR
1437		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
1438		.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	.00	NCK
1439		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
1440		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
1441		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1442		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1443		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1444		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1445		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1446		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1447		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1448		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1449		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1450		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

1451	4												
1452	**												
1453	**												
1454	** ANNUAL :	INSPECT AIR PUMP, CATALYST, CANISTER & PCV											
1455	**												
1456	0.30	0.30	0.30	0.30								EVAP/PCV	
1457	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1458	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
1459	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK	
1460	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1461	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1462	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
1463	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
1464	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR	
1465	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1466	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	.00	NCK	
1467	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK	
1468	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1469	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1470	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1471	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1472	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1473	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
1474	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
1475	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
1476	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
1477	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1478	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
1479	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1480	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
1481	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK	
1482	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1483	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1484	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
1485	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
1486	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR	
1487	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1488	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	.00	NCK	
1489	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK	
1490	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
1491	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1492	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1493	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1494	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1495	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
1496	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
1497	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
1498	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
1499	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1500	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

1501	4
1502	**
1503	** ANNUAL : INSPECT CATALYST, FUEL INLET, CANISTER & PCV
1504	** (NON-I/M AREAS ONLY)
1505	**
1506	0.30 0.30 0.30 0.30 EVAP/PCV
1507	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1508	.00 0.83 .00 0.62 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1509	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
1510	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1511	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1512	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
1513	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
1514	0.95 0.17 .00 0.33 .00 .00 .00 1.00 .00 .00 .00 AIR
1515	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1516	.00 .00 .00 .00 .00 0.62 .00 .00 .00 0.83 .00 NCK
1517	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
1518	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
1519	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1520	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1521	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1522	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1523	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
1524	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
1525	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
1526	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
1527	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
1528	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
1529	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
1530	.00 0.70 .00 0.65 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1531	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
1532	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1533	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1534	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
1535	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
1536	0.95 0.30 .00 0.30 .00 .00 .00 1.00 .00 .00 .00 AIR
1537	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1538	.00 .00 .00 .00 .00 .00 0.65 .00 .00 0.70 .00 NCK
1539	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
1540	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
1541	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1542	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1543	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1544	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1545	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
1546	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
1547	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
1548	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
1549	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
1550	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

1551	4											
1552	**											
1553	**	ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET, CANISTER & PCV										
1554	**	(NON-I/M AREAS ONLY)										
1555	**											
1556	0.30	0.30	0.30	0.30								EVAP/PCV
1557	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
1558	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1559	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK
1560	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1561	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1562	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
1563	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
1564	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR
1565	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
1566	.00	0.63	.00	0.47	.00	0.62	.00	.00	.00	0.83	.00	NCK
1567	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK
1568	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
1569	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1570	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1571	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1572	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1573	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1574	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1575	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1576	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1577	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1578	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
1579	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
1580	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1581	.00	.00	0.20	.00	0.15	.00	.00	.00	.00	.00	.00	AIR/TNK
1582	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1583	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1584	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
1585	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
1586	0.15	.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	AIR
1587	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
1588	.00	0.50	.00	0.50	.00	0.65	.00	.00	.00	0.70	.00	NCK
1589	.00	.00	0.80	.00	0.80	.00	0.95	.00	.00	.00	1.00	TNK
1590	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
1591	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1592	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1593	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1594	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1595	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1596	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1597	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1598	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1599	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1600	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

1601	4												
1602	**												
1603	**	ANNUAL : INSPECT CATALYST, FUEL INLET (AND PLUMBESMO),											
1604	**	CANISTER & PCV											
1605	**												
1606		0.30	0.30	0.30	0.30							EVAP/PCV	
1607		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1608		.00	0.25	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/NCK	
1609		.00	.00	0.25	.00	0.20	.00	.00	.00	.00	.00	AIR/TNK	
1610		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1611		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1612		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
1613		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
1614		0.95	0.75	0.75	0.75	0.75	.00	.00	1.00	.00	.00	AIR	
1615		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
1616		.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	NCK	
1617		.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	TNK
1618		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1619		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1620		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1621		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1622		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1623		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
1624		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
1625		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
1626		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
1627		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
1628		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
1629		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
1630		.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1631		.00	.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	AIR/TNK
1632		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1633		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1634		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
1635		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
1636		0.95	0.85	0.85	0.85	0.85	.00	.00	1.00	.00	.00	.00	AIR
1637		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
1638		.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	.00	NCK
1639		.00	.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	TNK
1640		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
1641		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1642		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1643		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1644		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1645		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1646		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1647		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1648		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1649		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
1650		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

1651	4
1652	**
1653	** ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET (AND PLUMBTESMO),
1654	** CANISTER & PCV
1655	**
1656	0.30 0.30 0.30 0.30 EVAP/PCV
1657	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1658	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
1659	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1660	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1661	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
1662	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
1663	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 AIR
1664	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 CAT
1665	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 NCK
1666	.00 0.05 .00 0.05 .00 0.20 .00 .00 .00 0.25 .00 TNK
1667	.00 .00 0.05 .00 0.05 .00 0.20 .00 .00 .00 0.25 EGR/CAT (PREVIOUS)
1668	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1669	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1670	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1671	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1672	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
1673	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
1674	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
1675	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
1676	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
1677	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
1678	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 AIR/CAT (SUBSEQUENT)
1679	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1680	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
1681	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1682	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1683	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
1684	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
1685	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 AIR
1686	0.15 0.05 0.05 0.05 0.05 .00 .00 0.20 .00 .00 .00 CAT
1687	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 NCK
1688	.00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 TNK
1689	.00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 EGR/CAT (SUBSEQUENT)
1690	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1691	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1692	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1693	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1694	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
1695	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
1696	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
1697	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
1698	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
1699	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
1700	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00

1701	4
1702	**
1703	** ANNUAL : INSPECT CATALYST, FUEL INLET, CANISTER & PCV
1704	** (I/M AREAS ONLY)
1705	**
1706	0.30 0.30 0.30 0.30 EVAP/PCV
1707	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1708	.00 0.67 .00 0.36 .00 .00 .00 .00 .00 .00 AIR/NCK
1709	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
1710	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1711	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
1712	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
1713	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
1714	0.95 0.33 .00 0.59 .00 .00 .00 1.00 .00 .00 .00 AIR
1715	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1716	.00 .00 .00 .00 .00 0.36 .00 .00 .00 0.67 .00 NCK
1717	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
1718	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
1719	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1720	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1721	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1722	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1723	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
1724	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
1725	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
1726	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
1727	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
1728	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
1729	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
1730	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/NCK
1731	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 AIR/TNK
1732	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1733	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
1734	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
1735	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
1736	0.95 0.70 .00 0.70 .00 .00 .00 1.00 .00 .00 AIR
1737	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
1738	.00 .00 .00 .00 .00 .00 0.25 .00 .00 0.30 NCK
1739	.00 .00 .00 .00 .00 .00 0.95 .00 .00 1.00 TNK
1740	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
1741	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1742	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1743	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1744	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1745	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
1746	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
1747	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
1748	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
1749	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
1750	.00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

1751	4
1752	**
1753	** ANNUAL : INSPECT AIR PUMP, CATALYST, FUEL INLET, CANISTER & PCV
1754	** (I/M AREAS ONLY)
1755	**
1756	0.30 0.30 0.30 0.30 EVAP/PCV
1757	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
1758	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
1759	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/TNK
1760	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1761	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1762	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
1763	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
1764	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 AIR
1765	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1766	.00 0.47 .00 0.21 .00 0.36 .00 .00 .00 0.67 .00 NCK
1767	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 TNK
1768	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
1769	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1770	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1771	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1772	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1773	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
1774	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
1775	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
1776	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
1777	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
1778	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
1779	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
1780	.00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
1781	.00 .00 0.20 .00 0.15 .00 .00 .00 .00 .00 .00 AIR/TNK
1782	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
1783	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
1784	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
1785	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
1786	0.15 .00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 AIR
1787	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
1788	.00 0.10 .00 0.10 .00 0.25 .00 .00 .00 0.30 .00 NCK
1789	.00 .00 0.80 .00 0.80 .00 0.95 .00 .00 .00 1.00 TNK
1790	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
1791	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
1792	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
1793	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
1794	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
1795	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
1796	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
1797	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
1798	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
1799	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
1800	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK

[illegible]

1851	4												
1852	**												
1853	**												
1854	** BIENNIAL : INSPECT CATALYST ONLY												
1855	**												
1856	1.00	1.00	1.00	1.00								EVAP/PCV	
1857	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1858	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
1859	.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK	
1860	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1861	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1862	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
1863	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
1864	0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR	
1865	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1866	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	.00	NCK	
1867	.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK	
1868	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1869	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1870	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1871	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1872	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1873	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
1874	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
1875	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
1876	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
1877	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1878	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
1879	0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)	
1880	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
1881	.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK	
1882	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1883	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1884	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK	
1885	.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK	
1886	0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR	
1887	.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1888	.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	NCK	
1889	.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK	
1890	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
1891	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1892	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1893	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1894	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1895	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
1896	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
1897	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
1898	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
1899	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
1900	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

1951	4												
1952	100%												
1953	100%	BIENNIAL : INSPECT CATALYST & FUEL INLET ONLY											
1954	100%	(NON-I/M AREAS ONLY)											
1955	100%												
1956		1.00	1.00	1.00	1.00							EVAP/PCV	
1957		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
1958		.00	0.83	.00	0.62	.00	.00	.00	.00	.00	.00	AIR/NCK	
1959		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK	
1960		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
1961		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
1962		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
1963		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
1964		0.95	0.17	.00	0.33	.00	.00	.00	1.00	.00	.00	AIR	
1965		.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT	
1966		.00	.00	.00	.00	.00	0.62	.00	.00	.00	0.83	NCK	
1967		.00	.00	.00	.00	.00	.00	0.95	.00	.00	1.00	TNK	
1968		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
1969		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
1970		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
1971		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
1972		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
1973		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
1974		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
1975		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
1976		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
1977		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
1978		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
1979		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
1980		.00	0.70	.00	0.65	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
1981		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK
1982		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
1983		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
1984		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
1985		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
1986		0.95	0.30	.00	0.30	.00	.00	.00	1.00	.00	.00	.00	AIR
1987		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
1988		.00	.00	.00	.00	.00	0.65	.00	.00	.00	0.70	.00	NCK
1989		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
1990		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
1991		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
1992		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
1993		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
1994		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
1995		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
1996		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
1997		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
1998		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
1999		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2000		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

2001	4												
2002	4												
2003	4	BIENNIAL : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY											
2004	4	(NON-I/M AREAS ONLY)											
2005	4												
2006		1.00	1.00	1.00	1.00							EVAP/PCV	
2007		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
2008		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/NCK	
2009		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	AIR/TNK	
2010		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
2011		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
2012		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
2013		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
2014		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	AIR	
2015		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
2016		.00	0.53	.00	0.53	.00	0.62	.00	.00	.00	0.83	NCK	
2017		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	1.00	TNK
2018		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
2019		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2020		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2021		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2022		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2023		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2024		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2025		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2026		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2027		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2028		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
2029		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
2030		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
2031		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/TNK
2032		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
2033		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
2034		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
2035		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
2036		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR
2037		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
2038		.00	0.40	.00	0.40	.00	0.65	.00	.00	.00	0.70	.00	NCK
2039		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	1.00	TNK
2040		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
2041		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2042		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2043		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2044		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2045		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2046		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2047		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2048		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2049		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2050		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

2051	4												
2052	**												
2053	**												
2054	**	BIENNIAL : INSPECT CATALYST & FUEL INLET (AND PLUMBTESMO)											
2055	**												
2056		1.00	1.00	1.00	1.00							EVAP/PCV	
2057		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
2058		.00	0.25	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/NCK	
2059		.00	.00	0.25	.00	0.20	.00	.00	.00	.00	.00	AIR/TNK	
2060		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
2061		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
2062		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
2063		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
2064		0.95	0.75	0.75	0.75	0.75	.00	.00	1.00	.00	.00	AIR	
2065		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
2066		.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	NCK	
2067		.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	TNK
2068		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
2069		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
2070		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
2071		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
2072		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
2073		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
2074		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
2075		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
2076		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
2077		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
2078		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
2079		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
2080		.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
2081		.00	.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	AIR/TNK
2082		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
2083		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
2084		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
2085		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
2086		0.95	0.85	0.85	0.85	0.85	.00	.00	1.00	.00	.00	.00	AIR
2087		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
2088		.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	.00	NCK
2089		.00	.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	TNK
2090		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
2091		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2092		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2093		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2094		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2095		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2096		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2097		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2098		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2099		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2100		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

2151	4
2152	**
2153	** BIENNIAL : INSPECT CATALYST & FUEL INLET ONLY
2154	** (I/M AREAS ONLY)
2155	**
2156	1.00 1.00 1.00 1.00 EVAP/PCV
2157	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2158	.00 0.67 .00 0.36 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2159	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
2160	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2161	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2162	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2163	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2164	0.95 0.33 .00 0.59 .00 .00 .00 1.00 .00 .00 .00 AIR
2165	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2166	.00 .00 .00 .00 .00 0.36 .00 .00 .00 0.67 .00 NCK
2167	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
2168	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2169	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2170	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2171	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2172	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2173	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2174	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2175	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2176	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2177	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2178	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
2179	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
2180	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2181	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
2182	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2183	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2184	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2185	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2186	0.95 0.70 .00 0.70 .00 .00 .00 1.00 .00 .00 .00 AIR
2187	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2188	.00 .00 .00 .00 .00 0.25 .00 .00 .00 0.30 .00 NCK
2189	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
2190	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2191	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2192	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2193	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2194	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2195	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2196	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2197	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2198	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2199	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2200	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

2201	4
2202	**
2203	** BIENNIAL : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY
2204	** (I/M AREAS ONLY)
2205	**
2206	1.00 1.00 1.00 1.00 EVAP/PCV
2207	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2208	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2209	.00 .00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/TNK
2210	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2211	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2212	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2213	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2214	0.25 .00 .00 .00 .00 .00 .00 0.30 .00 .00 .00 AIR
2215	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2216	.00 0.37 .00 0.11 .00 0.36 .00 .00 .00 0.67 .00 NCK
2217	.00 .00 0.70 .00 0.70 .00 0.95 .00 .00 .00 1.00 TNK
2218	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2219	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2220	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2221	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2222	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2223	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2224	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2225	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2226	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2227	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2228	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
2229	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2230	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2231	.00 .00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/TNK
2232	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2233	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2234	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2235	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2236	0.25 .00 .00 .00 .00 .00 .00 0.30 .00 .00 .00 AIR
2237	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2238	.00 .00 .00 .00 .00 0.25 .00 .00 .00 0.30 .00 NCK
2239	.00 .00 0.70 .00 0.70 .00 0.95 .00 .00 .00 1.00 TNK
2240	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2241	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2242	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2243	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2244	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2245	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2246	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2247	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2248	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2249	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2250	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

2251	4												
2252	**												
2253	**												
2254	**	BIENNIAL : INSPECT AIR PUMP & CANISTER											
2255	**												
2256		0.43	1.00	0.43	1.00								EVAP/PCV
2257		0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
2258		.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
2259		.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK
2260		.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
2261		.00	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
2262		.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2263		.00	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	CAT/TNK
2264		.00	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR
2265		0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2266		.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2267		.00	.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
2268		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
2269		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2270		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2271		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2272		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2273		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2274		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2275		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2276		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2277		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2278		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
2279		0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
2280		.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
2281		.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK
2282		.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
2283		.00	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
2284		.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2285		.00	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	CAT/TNK
2286		.00	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR
2287		0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2288		.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2289		.00	.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
2290		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
2291		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2292		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2293		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2294		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2295		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2296		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2297		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2298		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2299		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2300		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

[illegible]

2351	4
2352	**
2353	**
2354	** BIENNIAL : INSPECT AIR PUMP, CATALYST & CANISTER
2355	**
2356	0.43 1.00 0.43 1.00 EVAP/PCV
2357	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2358	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2359	.00 .00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/TNK
2360	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2361	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2362	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2363	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2364	0.25 .00 .00 .00 .00 .00 .00 0.30 .00 .00 .00 AIR
2365	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2366	.00 0.70 .00 0.70 .00 0.95 .00 .00 .00 1.00 .00 NCK
2367	.00 .00 0.70 .00 0.70 .00 0.95 .00 .00 .00 1.00 TNK
2368	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2369	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2370	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2371	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2372	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2373	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2374	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2375	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2376	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2377	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2378	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
2379	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2380	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2381	.00 .00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/TNK
2382	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2383	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2384	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2385	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2386	0.25 .00 .00 .00 .00 .00 .00 0.30 .00 .00 .00 AIR
2387	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2388	.00 0.70 .00 0.70 .00 0.95 .00 .00 .00 1.00 .00 NCK
2389	.00 .00 0.70 .00 0.70 .00 0.95 .00 .00 .00 1.00 TNK
2390	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2391	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2392	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2393	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2394	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2395	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2396	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2397	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2398	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2399	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2400	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

2401	4
2402	**
2403	** BIENNIAL : INSPECT CATALYST, FUEL INLET & CANISTER
2404	** (NON-I/M AREAS ONLY)
2405	**
2406	0.43 1.00 0.43 1.00 EVAP/PCV
2407	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2408	.00 0.83 .00 0.62 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2409	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
2410	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2411	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2412	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2413	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2414	0.95 0.17 .00 0.33 .00 .00 .00 1.00 .00 .00 .00 AIR
2415	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2416	.00 .00 .00 .00 .00 0.62 .00 .00 .00 0.83 .00 NCK
2417	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
2418	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2419	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2420	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2421	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2422	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2423	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2424	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2425	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2426	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2427	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2428	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
2429	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
2430	.00 0.70 .00 0.65 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2431	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
2432	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2433	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2434	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
2435	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
2436	0.95 0.30 .00 0.30 .00 .00 .00 1.00 .00 .00 .00 AIR
2437	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2438	.00 .00 .00 .00 .00 0.65 .00 .00 .00 0.70 .00 NCK
2439	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
2440	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2441	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2442	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2443	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2444	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2445	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
2446	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
2447	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
2448	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2449	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
2450	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

2501	4
2502	**
2503	** BIENNIAL : INSPECT CATALYST, FUEL INLET (AND PLUMBESMO),
2504	** & CANISTER
2505	**
2506	0.43 1.00 0.43 1.00 EVAP/PCV
2507	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2508	.00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 AIR/NCK
2509	.00 .00 0.25 .00 0.20 .00 .00 .00 .00 .00 AIR/TNK
2510	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2511	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
2512	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
2513	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
2514	0.95 0.75 0.75 0.75 0.75 .00 .00 1.00 .00 .00 AIR
2515	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
2516	.00 .00 .00 .00 .00 0.20 .00 .00 .00 0.25 NCK
2517	.00 .00 .00 .00 .00 .00 0.20 .00 .00 0.25 TNK
2518	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2519	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2520	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2521	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2522	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2523	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
2524	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
2525	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
2526	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
2527	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
2528	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
2529	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
2530	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 AIR/NCK
2531	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 AIR/TNK
2532	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2533	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
2534	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
2535	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
2536	0.95 0.85 0.85 0.85 0.85 .00 .00 1.00 .00 .00 AIR
2537	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 CAT
2538	.00 .00 .00 .00 .00 .00 0.10 .00 .00 0.15 NCK
2539	.00 .00 .00 .00 .00 .00 .00 0.10 .00 .00 0.15 TNK
2540	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2541	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2542	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2543	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2544	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2545	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
2546	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
2547	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
2548	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
2549	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
2550	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

2551	4
2552	**
2553	** BIENNIAL : INSPECT AIR PUMP, CATALYST, FUEL INLET (AND PLUMBESMO),
2554	** & CANISTER
2555	**
2556	0.43 1.00 0.43 1.00 EVAP/PCV
2557	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2558	.00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2559	.00 .00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
2560	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2561	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2562	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
2563	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
2564	0.25 0.05 0.05 0.05 0.05 .00 .00 0.30 .00 .00 .00 .00 AIR
2565	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT
2566	.00 .00 .00 .00 .00 0.20 .00 .00 .00 0.25 .00 .00 NCK
2567	.00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 0.25 .00 TNK
2568	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2569	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2570	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2571	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2572	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2573	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
2574	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
2575	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
2576	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
2577	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
2578	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
2579	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
2580	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2581	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
2582	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2583	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2584	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
2585	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
2586	0.25 0.15 0.15 0.15 0.15 .00 .00 0.30 .00 .00 .00 .00 AIR
2587	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT
2588	.00 .00 .00 .00 .00 .00 0.10 .00 .00 0.15 .00 .00 NCK
2589	.00 .00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 TNK
2590	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2591	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2592	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2593	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2594	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2595	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
2596	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
2597	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
2598	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
2599	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
2600	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK

2651	4												
2652	☆☆												
2653	☆☆	BIENNIAL : INSPECT AIR PUMP, CATALYST, FUEL INLET & CANISTER											
2654	☆☆	(I/M AREAS ONLY)											
2655	☆☆												
2656		0.43	1.00	0.43	1.00								EVAP/PCV
2657		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
2658		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
2659		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/TNK
2660		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
2661		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
2662		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
2663		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
2664		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR
2665		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
2666		.00	0.37	.00	0.11	.00	0.36	.00	.00	.00	0.67	.00	NCK
2667		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	1.00	TNK
2668		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
2669		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2670		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2671		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2672		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2673		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2674		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2675		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2676		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2677		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2678		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
2679		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
2680		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
2681		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/TNK
2682		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
2683		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
2684		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
2685		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
2686		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR
2687		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
2688		.00	.00	.00	.00	.00	0.25	.00	.00	.00	0.30	.00	NCK
2689		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	1.00	TNK
2690		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
2691		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2692		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2693		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2694		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2695		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2696		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2697		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2698		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2699		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2700		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

2701	4
2702	**
2703	**
2704	** BIENNIAL : INSPECT AIR PUMP & PCV
2705	**
2706	1.00 0.44 1.00 0.44 EVAP/PCV
2707	0.30 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2708	.00 0.30 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2709	.00 .00 0.30 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
2710	.00 .00 .00 0.30 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2711	.00 .00 .00 .00 0.30 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2712	.00 .00 .00 0.70 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
2713	.00 .00 .00 .00 0.70 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
2714	.00 .00 .00 .00 .00 .00 .00 0.30 .00 .00 .00 .00 AIR
2715	0.70 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
2716	.00 0.70 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
2717	.00 .00 0.70 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
2718	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2719	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2720	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2721	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2722	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2723	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
2724	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
2725	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
2726	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
2727	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
2728	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
2729	0.30 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
2730	.00 0.30 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
2731	.00 .00 0.30 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
2732	.00 .00 .00 0.30 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2733	.00 .00 .00 .00 0.30 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
2734	.00 .00 .00 0.70 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
2735	.00 .00 .00 .00 0.70 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
2736	.00 .00 .00 .00 .00 .00 .00 0.30 .00 .00 .00 .00 AIR
2737	0.70 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
2738	.00 0.70 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
2739	.00 .00 0.70 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
2740	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2741	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2742	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2743	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2744	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2745	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
2746	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
2747	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
2748	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
2749	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
2750	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK

2751	4												
2752	六六												
2753	六六												
2754	六六	BIENNIAL : INSPECT CATALYST & PCV											
2755	*												
2756		1.00	0.44	1.00	0.44							EVAP/PCV	
2757		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
2758		.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/NCK	
2759		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK	
2760		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
2761		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
2762		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
2763		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
2764		0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	AIR	
2765		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
2766		.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	NCK	
2767		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
2768		1.00	.50	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
2769		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
2770		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
2771		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
2772		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
2773		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
2774		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
2775		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
2776		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
2777		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
2778		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
2779		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
2780		.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
2781		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK
2782		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
2783		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
2784		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
2785		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
2786		0.95	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR
2787		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
2788		.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	.00	NCK
2789		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
2790		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
2791		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
2792		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
2793		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
2794		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
2795		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
2796		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
2797		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
2798		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
2799		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
2800		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

[illegible]

[illegible]

[illegible]

Year	4
2951	**
2952	**
2953	** BIENNIAL : INSPECT CATALYST, FUEL INLET (AND PLUMBESMO),
2954	** & PCV
2955	**
2956	1.00 0.44 1.00 0.44 EVAP/PCV
2957	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
2958	.00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 AIR/NCK
2959	.00 .00 0.25 .00 0.20 .00 .00 .00 .00 .00 AIR/TNK
2960	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2961	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
2962	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
2963	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
2964	0.95 0.75 0.75 0.75 0.75 .00 .00 1.00 .00 .00 AIR
2965	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2966	.00 .00 .00 .00 .00 0.20 .00 .00 .00 0.25 .00 NCK
2967	.00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 0.25 TNK
2968	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
2969	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2970	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2971	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2972	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2973	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
2974	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
2975	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
2976	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
2977	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
2978	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
2979	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
2980	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 AIR/NCK
2981	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 AIR/TNK
2982	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
2983	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 AIR/CAT/TNK
2984	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/NCK
2985	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT/TNK
2986	0.95 0.85 0.85 0.85 0.85 .00 .00 1.00 .00 .00 AIR
2987	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
2988	.00 .00 .00 .00 .00 .00 0.10 .00 .00 0.15 .00 NCK
2989	.00 .00 .00 .00 .00 .00 0.10 .00 .00 0.15 TNK
2990	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
2991	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
2992	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
2993	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
2994	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
2995	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
2996	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
2997	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
2998	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
2999	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
3000	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

3001	4												
3002	**												
3003	**	BIENNIAL : INSPECT AIR PUMP, CATALYST, FUEL INLET (AND PLUMBESMO),											
3004	**	& PCV											
3005	**												
3006		1.00	0.44	1.00	0.44							EVAP/PCV	
3007		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
3008		.00	0.25	.00	0.20	.00	.00	.00	.00	.00	.00	AIR/NCK	
3009		.00	.00	0.25	.00	0.20	.00	.00	.00	.00	.00	AIR/TNK	
3010		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3011		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3012		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
3013		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
3014		0.25	0.05	0.05	0.05	0.05	.00	.00	0.30	.00	.00	AIR	
3015		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
3016		.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	NCK	
3017		.00	.00	.00	.00	.00	.00	0.20	.00	.00	.00	0.25	TNK
3018		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
3019		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3020		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3021		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3022		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3023		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
3024		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
3025		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
3026		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
3027		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
3028		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
3029		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
3030		.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
3031		.00	.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	AIR/TNK
3032		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
3033		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
3034		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
3035		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
3036		0.25	0.15	0.15	0.15	0.15	.00	.00	0.30	.00	.00	.00	AIR
3037		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
3038		.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	.00	NCK
3039		.00	.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	TNK
3040		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
3041		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
3042		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
3043		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
3044		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
3045		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
3046		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
3047		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
3048		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
3049		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
3050		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

3051	4
3052	**
3053	** BIENNIAL : INSPECT CATALYST, FUEL INLET & PCV
3054	** (I/M AREAS ONLY)
3055	**
3056	1.00 0.44 1.00 0.44 EVAP/PCV
3057	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
3058	.00 0.67 .00 0.36 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
3059	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
3060	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
3061	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
3062	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
3063	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
3064	0.95 0.33 .00 0.59 .00 .00 .00 1.00 .00 .00 .00 AIR
3065	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
3066	.00 .00 .00 .00 .00 0.36 .00 .00 .00 0.67 .00 NCK
3067	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
3068	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
3069	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
3070	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
3071	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
3072	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
3073	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
3074	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
3075	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
3076	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
3077	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
3078	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
3079	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
3080	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
3081	.00 .00 1.00 .00 0.95 .00 .00 .00 .00 .00 .00 AIR/TNK
3082	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
3083	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
3084	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
3085	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
3086	0.95 0.70 .00 0.70 .00 .00 .00 1.00 .00 .00 .00 AIR
3087	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
3088	.00 .00 .00 .00 .00 0.25 .00 .00 .00 0.30 .00 NCK
3089	.00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 1.00 TNK
3090	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
3091	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
3092	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
3093	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
3094	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
3095	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
3096	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
3097	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
3098	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
3099	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
3100	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

[illegible]

3151	4												
3152	**												
3153	**												
3154	** BIENNIAL :	INSPECT AIR PUMP, CANISTER & PCV											
3155	**												
3156	0.43	0.44	0.43	0.44								EVAP/PCV	
3157	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
3158	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
3159	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK	
3160	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3161	.00	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3162	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3163	.00	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3164	.00	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR	
3165	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3166	.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3167	.00	.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
3168	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
3169	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3170	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3171	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3172	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3173	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3174	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3175	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
3176	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3177	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3178	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
3179	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)	
3180	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
3181	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK	
3182	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3183	.00	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3184	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3185	.00	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3186	.00	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR	
3187	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3188	.00	0.70	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
3189	.00	.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
3190	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
3191	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3192	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3193	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3194	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3195	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3196	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3197	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
3198	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3199	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3200	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

[illegible]

3301	4												
3302	☆☆												
3303	☆☆	BIENNIAL : INSPECT CATALYST, FUEL INLET, CANISTER & PCV											
3304	☆☆	(NON-I/M AREAS ONLY)											
3305	☆☆												
3306		0.43	0.44	0.43	0.44							EVAP/PCV	
3307		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
3308		.00	0.83	.00	0.62	.00	.00	.00	.00	.00	.00	AIR/NCK	
3309		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK	
3310		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3311		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3312		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
3313		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
3314		0.55	0.17	.00	0.33	.00	.00	.00	1.00	.00	.00	AIR	
3315		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
3316		.00	.00	.00	.00	.00	0.62	.00	.00	.00	0.83	NCK	
3317		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
3318		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)
3319		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
3320		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
3321		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
3322		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
3323		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
3324		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
3325		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
3326		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
3327		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
3328		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
3329		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
3330		.00	0.70	.00	0.65	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
3331		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK
3332		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
3333		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
3334		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
3335		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
3336		0.95	0.30	.00	0.30	.00	.00	.00	1.00	.00	.00	.00	AIR
3337		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
3338		.00	.00	.00	.00	.00	0.65	.00	.00	.00	0.70	.00	NCK
3339		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK
3340		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
3341		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
3342		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
3343		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
3344		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
3345		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
3346		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
3347		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
3348		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
3349		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
3350		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

3351	4												
3352	☆☆												
3353	☆☆	BIENNIAL : INSPECT AIR PUMP, CATALYST, FUEL INLET, CANISTER & PCV											
3354	☆☆	(NON-I/M AREAS ONLY)											
3355	☆☆												
3356		0.43	0.44	0.43	0.44							EVAP/PCV	
3357		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
3358		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/NCK	
3359		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	AIR/TNK	
3360		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3361		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3362		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
3363		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
3364		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	AIR	
3365		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
3366		.00	0.53	.00	0.53	.00	0.62	.00	.00	.00	0.83	NCK	
3367		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	TNK	
3368		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
3369		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3370		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3371		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3372		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3373		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
3374		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
3375		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
3376		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
3377		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
3378		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
3379		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
3380		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
3381		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/TNK
3382		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
3383		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
3384		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
3385		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
3386		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR
3387		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
3388		.00	0.40	.00	0.40	.00	0.65	.00	.00	.00	0.70	.00	NCK
3389		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	1.00	TNK
3390		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
3391		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
3392		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
3393		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
3394		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
3395		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
3396		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
3397		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
3398		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
3399		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
3400		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

[illegible]

3451	4
3452	**
3453	** BIENNIAL : INSPECT AIR PUMP, CATALYST, FUEL INLET (AND PLUMBESMO),
3454	** CANISTER & PCV
3455	**
3456	0.43 0.44 0.43 0.44 EVAP/PCV
3457	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
3458	.00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
3459	.00 .00 0.25 .00 0.20 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
3460	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
3461	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
3462	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
3463	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
3464	0.25 0.05 0.05 0.05 0.05 .00 .00 0.30 .00 .00 .00 .00 AIR
3465	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT
3466	.00 .00 .00 .00 .00 0.20 .00 .00 .00 0.25 .00 .00 NCK
3467	.00 .00 .00 .00 .00 .00 0.20 .00 .00 .00 0.25 TNK
3468	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
3469	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
3470	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
3471	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
3472	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
3473	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
3474	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
3475	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
3476	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
3477	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
3478	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
3479	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
3480	.00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
3481	.00 .00 0.15 .00 0.10 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
3482	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
3483	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
3484	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 CAT/NCK
3485	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/TNK
3486	0.25 0.15 0.15 0.15 0.15 .00 .00 0.30 .00 .00 .00 .00 AIR
3487	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 CAT
3488	.00 .00 .00 .00 .00 .00 0.10 .00 .00 0.15 .00 .00 NCK
3489	.00 .00 .00 .00 .00 .00 0.10 .00 .00 .00 0.15 TNK
3490	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
3491	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
3492	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
3493	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
3494	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
3495	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
3496	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
3497	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
3498	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
3499	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
3500	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

[illegible]

3551	4												
3552	**												
3553	**	BIENNIAL : INSPECT AIR PUMP, CATALYST, FUEL INLET, CANISTER & PCV											
3554	**	(I/M AREAS ONLY)											
3555	**												
3556		0.43	0.44	0.43	0.44							EVAP/PCV	
3557		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
3558		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/NCK	
3559		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	AIR/TNK	
3560		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3561		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3562		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
3563		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
3564		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	AIR	
3565		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
3566		.00	0.37	.00	0.11	.00	0.36	.00	.00	.00	0.67	NCK	
3567		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	1.00	TNK
3568		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
3569		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3570		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3571		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3572		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3573		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
3574		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
3575		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
3576		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
3577		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
3578		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
3579		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
3580		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
3581		.00	.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/TNK
3582		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
3583		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
3584		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
3585		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
3586		0.25	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR
3587		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
3588		.00	.00	.00	.00	.00	0.25	.00	.00	.00	0.30	.00	NCK
3589		.00	.00	0.70	.00	0.70	.00	0.95	.00	.00	.00	1.00	TNK
3590		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
3591		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
3592		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
3593		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
3594		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
3595		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
3596		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
3597		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
3598		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
3599		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
3600		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

3601	4												
3602	**												
3603	**												
3604	** CHNG-OF-OWN :	INSPECT AIR PUMP ONLY											
3605	**												
3606	1.00	1.00	1.00	1.00								EVAP/PCV	
3607	0.66	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
3608	.00	0.66	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
3609	.00	.00	0.66	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK	
3610	.00	.00	.00	0.66	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3611	.00	.00	.00	.00	0.66	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3612	.00	.00	.00	0.34	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3613	.00	.00	.00	.00	0.34	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3614	.00	.00	.00	.00	.00	.00	.00	0.66	.00	.00	.00	AIR	
3615	0.34	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3616	.00	0.34	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3617	.00	.00	0.34	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
3618	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
3619	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3620	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3621	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3622	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3623	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3624	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3625	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
3626	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3627	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3628	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
3629	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)	
3630	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
3631	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK	
3632	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3633	.00	.00	.00	.00	0.30	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3634	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3635	.00	.00	.00	.00	0.70	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3636	.00	.00	.00	.00	.00	.00	.00	0.30	.00	.00	.00	AIR	
3637	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3638	.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3639	.00	.00	0.70	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
3640	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
3641	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3642	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3643	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3644	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3645	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
3646	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
3647	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
3648	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
3649	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3650	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

[illegible]

[illegible]

3751	4														
3752	**														
3753	**	CHNG-OF-OWN : INSPECT CATALYST & FUEL INLET ONLY													
3754	**	(NON-I/M AREAS ONLY)													
3755	**														
3756		1.00	1.00	1.00	1.00								EVAP/PCV		
3757		0.54	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)		
3758		.00	0.92	.00	0.30	.00	.00	.00	.00	.00	.00	.00	AIR/NCK		
3759		.00	.00	1.00	.00	0.46	.00	.00	.00	.00	.00	.00	AIR/TNK		
3760		.00	.00	.00	0.54	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK		
3761		.00	.00	.00	.00	0.54	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK		
3762		.00	.00	.00	.00	.00	0.54	.00	.00	.00	.00	.00	CAT/NCK		
3763		.00	.00	.00	.00	.00	.00	0.54	.00	.00	.00	.00	CAT/TNK		
3764		0.46	0.08	.00	0.16	.00	.00	.00	1.00	.00	.00	.00	AIR		
3765		.00	.00	.00	.00	.00	.00	.00	.00	0.54	.00	.00	CAT		
3766		.00	.00	.00	.00	.00	0.30	.00	.00	.00	0.92	.00	NCK		
3767		.00	.00	.00	.00	.00	.00	0.46	.00	.00	.00	1.00	TNK		
3768		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)		
3769		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK		
3770		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK		
3771		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK		
3772		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK		
3773		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK		
3774		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK		
3775		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR		
3776		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT		
3777		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK		
3778		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK		
3779		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)		
3780		.00	0.70	.00	0.65	.00	.00	.00	.00	.00	.00	.00	AIR/NCK		
3781		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	.00	AIR/TNK		
3782		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK		
3783		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK		
3784		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK		
3785		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK		
3786		0.95	0.30	.00	0.30	.00	.00	.00	1.00	.00	.00	.00	AIR		
3787		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT		
3788		.00	.00	.00	.00	.00	0.65	.00	.00	.00	0.70	.00	NCK		
3789		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	1.00	TNK		
3790		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)		
3791		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK		
3792		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK		
3793		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK		
3794		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK		
3795		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK		
3796		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK		
3797		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR		
3798		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT		
3799		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK		
3800		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK		

3801	4
3802	**
3803	** CHNG-OF-OWN : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY
3804	** (NON-I/M AREAS ONLY)
3805	**
3806	1.00 1.00 1.00 1.00 EVAP/PCV
3807	0.54 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
3808	.00 0.66 .00 0.12 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
3809	.00 .00 0.66 .00 0.12 .00 .00 .00 .00 .00 .00 AIR/TNK
3810	.00 .00 .00 0.54 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
3811	.00 .00 .00 .00 0.54 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
3812	.00 .00 .00 .00 .00 0.54 .00 .00 .00 .00 .00 CAT/NCK
3813	.00 .00 .00 .00 .00 .00 0.54 .00 .00 .00 .00 CAT/TNK
3814	0.12 .00 .00 .00 .00 .00 .00 0.66 .00 .00 .00 AIR
3815	.00 .00 .00 .00 .00 .00 .00 .00 0.54 .00 .00 CAT
3816	.00 0.26 .00 0.26 .00 0.30 .00 .00 .00 0.92 .00 NCK
3817	.00 .00 0.34 .00 0.34 .00 0.46 .00 .00 .00 1.00 TNK
3818	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
3819	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
3820	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
3821	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
3822	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
3823	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
3824	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
3825	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
3826	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
3827	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
3828	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
3829	0.05 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
3830	.00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
3831	.00 .00 0.30 .00 0.25 .00 .00 .00 .00 .00 .00 AIR/TNK
3832	.00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
3833	.00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
3834	.00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 .00 CAT/NCK
3835	.00 .00 .00 .00 .00 .00 0.05 .00 .00 .00 .00 CAT/TNK
3836	0.25 .00 .00 .00 .00 .00 .00 0.30 .00 .00 .00 AIR
3837	.00 .00 .00 .00 .00 .00 .00 .00 0.05 .00 .00 CAT
3838	.00 0.40 .00 0.40 .00 0.65 .00 .00 .00 0.70 .00 NCK
3839	.00 .00 0.70 .00 0.70 .00 0.95 .00 .00 .00 1.00 TNK
3840	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
3841	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
3842	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
3843	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
3844	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
3845	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
3846	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
3847	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
3848	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
3849	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
3850	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

3851	4												
3852	***												
3853	***												
3854	***	CHNG-OF-OWN : INSPECT CATALYST & FUEL INLET (AND PLUMBTESMO)											
3855	***												
3856		1.00	1.00	1.00	1.00							EVAP/PCV	
3857		0.54	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
3858		.00	0.64	.00	0.10	.00	.00	.00	.00	.00	.00	AIR/NCK	
3859		.00	.00	0.64	.00	0.10	.00	.00	.00	.00	.00	AIR/TNK	
3860		.00	.00	.00	0.54	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3861		.00	.00	.00	.00	0.54	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3862		.00	.00	.00	.00	.00	0.54	.00	.00	.00	.00	CAT/NCK	
3863		.00	.00	.00	.00	.00	.00	0.54	.00	.00	.00	CAT/TNK	
3864		0.46	0.36	0.36	0.36	0.36	.00	.00	1.00	.00	.00	AIR	
3865		.00	.00	.00	.00	.00	.00	.00	.00	0.54	.00	CAT	
3866		.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.64	NCK	
3867		.00	.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.64	TNK
3868		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
3869		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3870		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3871		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3872		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3873		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
3874		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
3875		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
3876		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
3877		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
3878		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
3879		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
3880		.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
3881		.00	.00	0.15	.00	0.10	.00	.00	.00	.00	.00	.00	AIR/TNK
3882		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
3883		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
3884		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	CAT/NCK
3885		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/TNK
3886		0.95	0.85	0.85	0.85	0.85	.00	.00	1.00	.00	.00	.00	AIR
3887		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	.00	CAT
3888		.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	.00	NCK
3889		.00	.00	.00	.00	.00	.00	0.10	.00	.00	.00	0.15	TNK
3890		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
3891		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
3892		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
3893		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
3894		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
3895		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
3896		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
3897		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
3898		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
3899		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
3900		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

[illegible]

3951	4												
3952	**												
3953	**	CHNG-OF-OWN : INSPECT CATALYST & FUEL INLET ONLY											
3954	**	(I/M AREAS ONLY)											
3955	**												
3956		1.00	1.00	1.00	1.00							EVAP/PCV	
3957		0.54	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
3958		.00	0.84	.00	0.18	.00	.00	.00	.00	.00	.00	AIR/NCK	
3959		.00	.00	1.00	.00	0.46	.00	.00	.00	.00	.00	AIR/TNK	
3960		.00	.00	.00	0.54	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3961		.00	.00	.00	.00	0.54	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3962		.00	.00	.00	.00	.00	0.54	.00	.00	.00	.00	CAT/NCK	
3963		.00	.00	.00	.00	.00	.00	0.54	.00	.00	.00	CAT/TNK	
3964		0.46	0.16	.00	0.28	.00	.00	.00	1.00	.00	.00	AIR	
3965		.00	.00	.00	.00	.00	.00	.00	0.54	.00	.00	CAT	
3966		.00	.00	.00	.00	.00	0.18	.00	.00	.00	0.84	NCK	
3967		.00	.00	.00	.00	.00	.00	0.46	.00	.00	.00	TNK	
3968		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
3969		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3970		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3971		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3972		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3973		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
3974		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
3975		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
3976		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
3977		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
3978		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
3979		0.05	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)	
3980		.00	0.30	.00	0.25	.00	.00	.00	.00	.00	.00	AIR/NCK	
3981		.00	.00	1.00	.00	0.95	.00	.00	.00	.00	.00	AIR/TNK	
3982		.00	.00	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
3983		.00	.00	.00	.00	0.05	.00	.00	.00	.00	.00	AIR/CAT/TNK	
3984		.00	.00	.00	.00	.00	0.05	.00	.00	.00	.00	CAT/NCK	
3985		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	CAT/TNK	
3986		0.95	0.70	.00	0.70	.00	.00	.00	1.00	.00	.00	AIR	
3987		.00	.00	.00	.00	.00	.00	.00	.00	0.05	.00	CAT	
3988		.00	.00	.00	.00	.00	0.25	.00	.00	.00	0.30	NCK	
3989		.00	.00	.00	.00	.00	.00	0.95	.00	.00	.00	TNK	
3990		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
3991		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
3992		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
3993		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
3994		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
3995		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
3996		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
3997		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
3998		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
3999		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
4000		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

[illegible]

4101	4												
4102	**												
4103	**												
4104	** 1% AUDIT : INSPECT CATALYST ONLY												
4105	**												
4106	1.00	1.00	1.00	1.00								EVAP/PCV	
4107	0.96	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
4108	.00	1.00	.00	0.04	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
4109	.00	.00	1.00	.00	0.04	.00	.00	.00	.00	.00	.00	AIR/TNK	
4110	.00	.00	.00	0.96	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
4111	.00	.00	.00	.00	0.96	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
4112	.00	.00	.00	.00	.00	0.96	.00	.00	.00	.00	.00	CAT/NCK	
4113	.00	.00	.00	.00	.00	.00	0.96	.00	.00	.00	.00	CAT/TNK	
4114	0.04	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR	
4115	.00	.00	.00	.00	.00	.00	.00	.00	0.96	.00	.00	CAT	
4116	.00	.00	.00	.00	.00	0.04	.00	.00	.00	1.00	.00	NCK	
4117	.00	.00	.00	.00	.00	.00	0.04	.00	.00	.00	1.00	TNK	
4118	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
4119	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
4120	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
4121	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
4122	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
4123	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
4124	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
4125	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
4126	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
4127	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
4128	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
4129	0.76	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)	
4130	.00	1.00	.00	0.24	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
4131	.00	.00	1.00	.00	0.24	.00	.00	.00	.00	.00	.00	AIR/TNK	
4132	.00	.00	.00	0.76	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
4133	.00	.00	.00	.00	0.76	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
4134	.00	.00	.00	.00	.00	0.76	.00	.00	.00	.00	.00	CAT/NCK	
4135	.00	.00	.00	.00	.00	.00	0.76	.00	.00	.00	.00	CAT/TNK	
4136	0.24	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR	
4137	.00	.00	.00	.00	.00	.00	.00	.00	0.76	.00	.00	CAT	
4138	.00	.00	.00	.00	.00	0.24	.00	.00	.00	1.00	.00	NCK	
4139	.00	.00	.00	.00	.00	.00	0.24	.00	.00	.00	1.00	TNK	
4140	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)	
4141	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
4142	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
4143	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
4144	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
4145	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
4146	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
4147	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
4148	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
4149	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
4150	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	

4201	4
4202	**
4203	** 1% AUDIT : INSPECT CATALYST & FUEL INLET ONLY
4204	** (NON-I/M AREAS ONLY)
4205	**
4206	1.00 1.00 1.00 1.00 EVAP/PCV
4207	0.96 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4208	.00 0.99 .00 0.03 .00 .00 .00 .00 .00 .00 AIR/NCK
4209	.00 .00 1.00 .00 0.04 .00 .00 .00 .00 .00 AIR/TNK
4210	.00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4211	.00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 AIR/CAT/TNK
4212	.00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 CAT/NCK
4213	.00 .00 .00 .00 .00 .00 0.96 .00 .00 .00 CAT/TNK
4214	0.04 0.01 .00 0.01 .00 .00 .00 1.00 .00 .00 AIR
4215	.00 .00 .00 .00 .00 .00 .00 .00 0.96 .00 CAT
4216	.00 .00 .00 .00 .00 0.03 .00 .00 .00 0.99 NCK
4217	.00 .00 .00 .00 .00 .00 0.04 .00 .00 1.00 TNK
4218	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4219	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4220	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4221	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4222	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4223	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
4224	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
4225	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
4226	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
4227	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
4228	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4229	0.76 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4230	.00 0.92 .00 0.16 .00 .00 .00 .00 .00 .00 AIR/NCK
4231	.00 .00 1.00 .00 0.24 .00 .00 .00 .00 .00 AIR/TNK
4232	.00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4233	.00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 AIR/CAT/TNK
4234	.00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 CAT/NCK
4235	.00 .00 .00 .00 .00 .00 0.76 .00 .00 .00 CAT/TNK
4236	0.24 0.08 .00 0.08 .00 .00 .00 1.00 .00 .00 AIR
4237	.00 .00 .00 .00 .00 .00 .00 .00 0.76 .00 CAT
4238	.00 .00 .00 .00 .00 0.16 .00 .00 .00 0.92 NCK
4239	.00 .00 .00 .00 .00 .00 0.24 .00 .00 1.00 TNK
4240	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4241	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4242	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4243	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4244	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4245	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
4246	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
4247	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
4248	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4249	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4250	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4251	4
4252	**
4253	** 1% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY
4254	** (NON-I/M AREAS ONLY)
4255	**
4256	1.00 1.00 1.00 1.00 EVAP/PCV
4257	0.96 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4258	.00 0.97 .00 0.01 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4259	.00 .00 0.97 .00 0.01 .00 .00 .00 .00 .00 .00 AIR/TNK
4260	.00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4261	.00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4262	.00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 CAT/NCK
4263	.00 .00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 CAT/TNK
4264	0.01 .00 .00 .00 .00 .00 .00 0.97 .00 .00 .00 AIR
4265	.00 .00 .00 .00 .00 .00 .00 .00 0.96 .00 .00 CAT
4266	.00 0.02 .00 0.02 .00 0.03 .00 .00 .00 0.99 .00 NCK
4267	.00 .00 0.03 .00 0.03 .00 0.04 .00 .00 .00 1.00 TNK
4268	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4269	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4270	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4271	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4272	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4273	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4274	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4275	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4276	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4277	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4278	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4279	0.76 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4280	.00 0.82 .00 0.06 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4281	.00 .00 0.82 .00 0.06 .00 .00 .00 .00 .00 .00 AIR/TNK
4282	.00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4283	.00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4284	.00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 CAT/NCK
4285	.00 .00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 CAT/TNK
4286	0.06 .00 .00 .00 .00 .00 .00 0.82 .00 .00 .00 AIR
4287	.00 .00 .00 .00 .00 .00 .00 .00 0.76 .00 .00 CAT
4288	.00 0.10 .00 0.10 .00 0.16 .00 .00 .00 0.92 .00 NCK
4289	.00 .00 0.18 .00 0.18 .00 0.24 .00 .00 .00 1.00 TNK
4290	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4291	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4292	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4293	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4294	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4295	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4296	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4297	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4298	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4299	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4300	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4301	4
4302	**
4303	**
4304	** 1% AUDIT : INSPECT CATALYST & FUEL INLET (AND PLUMBESMO)
4305	**
4306	1.00 1.00 1.00 1.00 EVAP/PCV
4307	0.96 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4308	.00 0.97 .00 0.01 .00 .00 .00 .00 .00 .00 AIR/NCK
4309	.00 .00 0.97 .00 0.01 .00 .00 .00 .00 .00 AIR/TNK
4310	.00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4311	.00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 AIR/CAT/TNK
4312	.00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 CAT/NCK
4313	.00 .00 .00 .00 .00 .00 0.96 .00 .00 .00 CAT/TNK
4314	0.04 0.03 0.03 0.03 0.03 .00 .00 1.00 .00 .00 AIR
4315	.00 .00 .00 .00 .00 .00 .00 .00 0.96 .00 .00 CAT
4316	.00 .00 .00 .00 .00 0.01 .00 .00 .00 0.97 .00 NCK
4317	.00 .00 .00 .00 .00 .00 0.01 .00 .00 .00 0.97 TNK
4318	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4319	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4320	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4321	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4322	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4323	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
4324	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
4325	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
4326	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
4327	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
4328	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4329	0.76 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4330	.00 0.79 .00 0.03 .00 .00 .00 .00 .00 .00 AIR/NCK
4331	.00 .00 0.79 .00 0.03 .00 .00 .00 .00 .00 AIR/TNK
4332	.00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4333	.00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 AIR/CAT/TNK
4334	.00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 CAT/NCK
4335	.00 .00 .00 .00 .00 .00 0.76 .00 .00 .00 CAT/TNK
4336	0.24 0.21 0.21 0.21 0.21 .00 .00 1.00 .00 .00 AIR
4337	.00 .00 .00 .00 .00 .00 .00 .00 0.76 .00 .00 CAT
4338	.00 .00 .00 .00 .00 .00 0.03 .00 .00 0.79 .00 NCK
4339	.00 .00 .00 .00 .00 .00 0.03 .00 .00 .00 0.79 TNK
4340	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4341	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4342	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4343	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4344	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4345	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
4346	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
4347	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
4348	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
4349	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4350	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4351	4
4352	**
4353	**
4354	** 1% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET (AND PLUMBESMO)
4355	**
4356	1.00 1.00 1.00 1.00 EVAP/PCV
4357	0.96 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4358	.00 0.97 .00 0.01 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4359	.00 .00 0.97 .00 0.01 .00 .00 .00 .00 .00 .00 AIR/TNK
4360	.00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4361	.00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4362	.00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 CAT/NCK
4363	.00 .00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 CAT/TNK
4364	0.01 .00 .00 .00 .00 .00 .00 0.97 .00 .00 .00 AIR
4365	.00 .00 .00 .00 .00 .00 .00 .00 0.96 .00 .00 CAT
4366	.00 .00 .00 .00 .00 0.01 .00 .00 .00 0.97 .00 NCK
4367	.00 .00 .00 .00 .00 .00 0.01 .00 .00 .00 0.97 TNK
4368	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4369	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4370	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4371	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4372	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4373	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4374	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4375	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4376	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4377	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4378	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4379	0.76 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4380	.00 0.79 .00 0.03 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4381	.00 .00 0.79 .00 0.03 .00 .00 .00 .00 .00 .00 AIR/TNK
4382	.00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4383	.00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4384	.00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 CAT/NCK
4385	.00 .00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 CAT/TNK
4386	0.06 0.03 0.03 0.03 0.03 .00 .00 0.82 .00 .00 .00 AIR
4387	.00 .00 .00 .00 .00 .00 .00 .00 0.76 .00 .00 CAT
4388	.00 .00 .00 .00 .00 .00 0.03 .00 .00 .00 0.79 NCK
4389	.00 .00 .00 .00 .00 .00 0.03 .00 .00 .00 0.79 TNK
4390	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4391	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4392	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4393	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4394	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4395	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4396	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4397	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4398	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4399	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4400	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4401	4
4402	**
4403	** 1% AUDIT : INSPECT CATALYST & FUEL INLET ONLY
4404	** (I/M AREAS ONLY)
4405	**
4406	1.00 1.00 1.00 1.00 EVAP/PCV
4407	0.96 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4408	.00 0.99 .00 0.02 .00 .00 .00 .00 .00 .00 AIR/NCK
4409	.00 .00 1.00 .00 0.04 .00 .00 .00 .00 .00 AIR/TNK
4410	.00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4411	.00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 AIR/CAT/TNK
4412	.00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 CAT/NCK
4413	.00 .00 .00 .00 .00 .00 0.96 .00 .00 .00 CAT/TNK
4414	0.04 0.01 .00 0.02 .00 .00 .00 1.00 .00 .00 AIR
4415	.00 .00 .00 .00 .00 .00 .00 .00 0.96 .00 CAT
4416	.00 .00 .00 .00 .00 0.02 .00 .00 .00 0.99 NCK
4417	.00 .00 .00 .00 .00 .00 0.04 .00 .00 .00 1.00 TNK
4418	1.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4419	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4420	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4421	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4422	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4423	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
4424	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
4425	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
4426	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
4427	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
4428	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4429	0.76 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4430	.00 0.82 .00 0.06 .00 .00 .00 .00 .00 .00 AIR/NCK
4431	.00 .00 1.00 .00 0.24 .00 .00 .00 .00 .00 AIR/TNK
4432	.00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4433	.00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 AIR/CAT/TNK
4434	.00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 CAT/NCK
4435	.00 .00 .00 .00 .00 .00 0.76 .00 .00 .00 CAT/TNK
4436	0.24 0.18 .00 0.18 .00 .00 .00 1.00 .00 .00 AIR
4437	.00 .00 .00 .00 .00 .00 .00 .00 0.76 .00 CAT
4438	.00 .00 .00 .00 .00 0.06 .00 .00 .00 0.82 NCK
4439	.00 .00 .00 .00 .00 .00 0.24 .00 .00 1.00 TNK
4440	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4441	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4442	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4443	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4444	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4445	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
4446	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
4447	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
4448	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
4449	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
4450	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4451	4
4452	**
4453	** 1% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY
4454	** (I/M AREAS ONLY)
4455	**
4456	1.00 1.00 1.00 1.00 EVAP/PCV
4457	0.96 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4458	.00 0.97 .00 0.01 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4459	.00 .00 0.97 .00 0.01 .00 .00 .00 .00 .00 .00 AIR/TNK
4460	.00 .00 .00 0.96 .00 .00 * .00 .00 .00 .00 .00 AIR/CAT/NCK
4461	.00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4462	.00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 .00 CAT/NCK
4463	.00 .00 .00 .00 .00 .00 0.96 .00 .00 .00 .00 CAT/TNK
4464	0.01 .00 .00 .00 .00 .00 .00 0.97 .00 .00 .00 AIR
4465	.00 .00 .00 .00 .00 .00 .00 .00 0.96 .00 .00 CAT
4466	.00 0.02 .00 0.01 .00 0.02 .00 .00 .00 0.99 .00 NCK
4467	.00 .00 0.03 .00 0.03 .00 0.04 .00 .00 .00 1.00 TNK
4468	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4469	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4470	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4471	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4472	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4473	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4474	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4475	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4476	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4477	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4478	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4479	0.76 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4480	.00 0.82 .00 0.06 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4481	.00 .00 0.82 .00 0.06 .00 .00 .00 .00 .00 .00 AIR/TNK
4482	.00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4483	.00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4484	.00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 .00 CAT/NCK
4485	.00 .00 .00 .00 .00 .00 0.76 .00 .00 .00 .00 CAT/TNK
4486	0.06 .00 .00 .00 .00 .00 .00 0.82 .00 .00 .00 AIR
4487	.00 .00 .00 .00 .00 .00 .00 .00 0.76 .00 .00 CAT
4488	.00 .00 .00 .00 .00 .00 0.06 .00 .00 0.82 .00 NCK
4489	.00 .00 0.18 .00 0.18 .00 0.24 .00 .00 .00 1.00 TNK
4490	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4491	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4492	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4493	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4494	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4495	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4496	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4497	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4498	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4499	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4500	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4501	4
4502	**
4503	**
4504	** 2% AUDIT : INSPECT AIR PUMP ONLY
4505	**
4506	1.00 1.00 1.00 1.00 EVAP/PCV
4507	0.95 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4508	.00 0.95 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4509	.00 .00 0.95 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
4510	.00 .00 .00 0.95 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4511	.00 .00 .00 .00 0.95 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4512	.00 .00 .00 0.05 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
4513	.00 .00 .00 .00 0.05 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
4514	.00 .00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 .00 AIR
4515	0.05 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
4516	.00 0.05 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
4517	.00 .00 0.05 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
4518	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4519	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4520	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4521	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4522	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4523	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
4524	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
4525	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
4526	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT
4527	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
4528	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
4529	0.75 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4530	.00 0.75 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4531	.00 .00 0.75 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
4532	.00 .00 .00 0.75 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4533	.00 .00 .00 .00 0.75 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4534	.00 .00 .00 0.25 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
4535	.00 .00 .00 .00 0.25 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
4536	.00 .00 .00 .00 .00 .00 .00 0.75 .00 .00 .00 .00 AIR
4537	0.25 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT
4538	.00 0.25 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 NCK
4539	.00 .00 0.25 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK
4540	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4541	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4542	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4543	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4544	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4545	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 CAT/NCK
4546	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/TNK
4547	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 EGR
4548	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT
4549	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 NCK
4550	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 TNK

4551	4
4552	**
4553	**
4554	** 2% AUDIT : INSPECT CATALYST ONLY
4555	**
4556	1.00 1.00 1.00 1.00 EVAP/PCV
4557	0.93 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4558	.00 1.00 .00 0.07 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4559	.00 .00 1.00 .00 0.07 .00 .00 .00 .00 .00 .00 AIR/TNK
4560	.00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4561	.00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4562	.00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 CAT/NCK
4563	.00 .00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 CAT/TNK
4564	0.07 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 AIR
4565	.00 .00 .00 .00 .00 .00 .00 .00 0.93 .00 .00 CAT
4566	.00 .00 .00 .00 .00 0.07 .00 .00 .00 1.00 .00 NCK
4567	.00 .00 .00 .00 .00 .00 0.07 .00 .00 .00 1.00 TNK
4568	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4569	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4570	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4571	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4572	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4573	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4574	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4575	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4576	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4577	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4578	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4579	0.67 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4580	.00 1.00 .00 0.33 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4581	.00 .00 1.00 .00 0.33 .00 .00 .00 .00 .00 .00 AIR/TNK
4582	.00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4583	.00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4584	.00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 CAT/NCK
4585	.00 .00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 CAT/TNK
4586	0.33 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 AIR
4587	.00 .00 .00 .00 .00 .00 .00 .00 0.67 .00 .00 CAT
4588	.00 .00 .00 .00 .00 .00 0.33 .00 .00 .00 1.00 NCK
4589	.00 .00 .00 .00 .00 .00 0.33 .00 .00 .00 1.00 TNK
4590	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4591	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4592	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4593	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4594	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4595	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4596	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4597	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4598	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4599	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4600	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4601	4												
4602	**												
4603	**												
4604	**	2% AUDIT : INSPECT AIR PUMP & CATALYST ONLY											
4605	**												
4606		1.00	1.00	1.00	1.00							EVAP/PCV	
4607		0.93	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
4608		.00	0.95	.00	0.02	.00	.00	.00	.00	.00	.00	AIR/NCK	
4609		.00	.00	0.95	.00	0.02	.00	.00	.00	.00	.00	AIR/TNK	
4610		.00	.00	.00	0.93	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
4611		.00	.00	.00	.00	0.93	.00	.00	.00	.00	.00	AIR/CAT/TNK	
4612		.00	.00	.00	.00	.00	0.93	.00	.00	.00	.00	CAT/NCK	
4613		.00	.00	.00	.00	.00	.00	0.93	.00	.00	.00	CAT/TNK	
4614		0.02	.00	.00	.00	.00	.00	.00	0.95	.00	.00	AIR	
4615		.00	.00	.00	.00	.00	.00	.00	.00	0.93	.00	CAT	
4616		.00	0.05	.00	0.05	.00	0.07	.00	.00	.00	1.00	NCK	
4617		.00	.00	0.05	.00	0.05	.00	0.07	.00	.00	.00	1.00	TNK
4618		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
4619		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
4620		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
4621		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
4622		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
4623		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
4624		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
4625		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
4626		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
4627		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
4628		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
4629		0.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
4630		.00	0.75	.00	0.08	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
4631		.00	.00	0.75	.00	0.08	.00	.00	.00	.00	.00	.00	AIR/TNK
4632		.00	.00	.00	0.67	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
4633		.00	.00	.00	.00	0.67	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
4634		.00	.00	.00	.00	.00	0.67	.00	.00	.00	.00	.00	CAT/NCK
4635		.00	.00	.00	.00	.00	.00	0.67	.00	.00	.00	.00	CAT/TNK
4636		0.08	.00	.00	.00	.00	.00	.00	0.75	.00	.00	.00	AIR
4637		.00	.00	.00	.00	.00	.00	.00	.00	0.67	.00	.00	CAT
4638		.00	0.25	.00	0.25	.00	0.33	.00	.00	.00	1.00	.00	NCK
4639		.00	.00	0.25	.00	0.25	.00	0.33	.00	.00	.00	1.00	TNK
4640		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
4641		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
4642		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
4643		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
4644		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
4645		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
4646		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
4647		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
4648		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
4649		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
4650		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

4651	4
4652	**
4653	** 2% AUDIT : INSPECT CATALYST & FUEL INLET ONLY
4654	** (NON-I/M AREAS ONLY)
4655	**
4656	1.00 1.00 1.00 1.00 EVAP/PCV
4657	0.93 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4658	.00 0.99 .00 0.04 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4659	.00 .00 1.00 .00 0.07 .00 .00 .00 .00 .00 .00 AIR/TNK
4660	.00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4661	.00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4662	.00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 CAT/NCK
4663	.00 .00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 CAT/TNK
4664	0.07 0.01 .00 0.03 .00 .00 .00 1.00 .00 .00 .00 AIR
4665	.00 .00 .00 .00 .00 .00 .00 .00 0.93 .00 .00 CAT
4666	.00 .00 .00 .00 .00 0.04 .00 .00 .00 0.99 .00 NCK
4667	.00 .00 .00 .00 .00 .00 0.07 .00 .00 .00 1.00 TNK
4668	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4669	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4670	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4671	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4672	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4673	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4674	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4675	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4676	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4677	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4678	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4679	0.67 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4680	.00 0.89 .00 0.22 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4681	.00 .00 1.00 .00 0.33 .00 .00 .00 .00 .00 .00 AIR/TNK
4682	.00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4683	.00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4684	.00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 CAT/NCK
4685	.00 .00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 CAT/TNK
4686	0.33 0.11 .00 0.11 .00 .00 .00 1.00 .00 .00 .00 AIR
4687	.00 .00 .00 .00 .00 .00 .00 .00 0.67 .00 .00 CAT
4688	.00 .00 .00 .00 .00 .00 0.22 .00 .00 0.89 .00 NCK
4689	.00 .00 .00 .00 .00 .00 0.33 .00 .00 .00 1.00 TNK
4690	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4691	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4692	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4693	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4694	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4695	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4696	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4697	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4698	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4699	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4700	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4701	4												
4702	**												
4703	**	2% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY											
4704	**	(NON-I/M AREAS ONLY)											
4705	**												
4706		1.00	1.00	1.00	1.00							EVAP/PCV	
4707		0.93	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
4708		.00	0.95	.00	0.02	.00	.00	.00	.00	.00	.00	AIR/NCK	
4709		.00	.00	0.95	.00	0.02	.00	.00	.00	.00	.00	AIR/TNK	
4710		.00	.00	.00	0.93	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
4711		.00	.00	.00	.00	0.93	.00	.00	.00	.00	.00	AIR/CAT/TNK	
4712		.00	.00	.00	.00	.00	0.93	.00	.00	.00	.00	CAT/NCK	
4713		.00	.00	.00	.00	.00	.00	0.93	.00	.00	.00	CAT/TNK	
4714		0.02	.00	.00	.00	.00	.00	.00	0.95	.00	.00	AIR	
4715		.00	.00	.00	.00	.00	.00	.00	.00	0.93	.00	CAT	
4716		.00	0.04	.00	0.04	.00	0.04	.00	.00	.00	0.99	NCK	
4717		.00	.00	0.05	.00	0.05	.00	0.07	.00	.00	.00	1.00	TNK
4718		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
4719		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
4720		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
4721		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
4722		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
4723		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
4724		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
4725		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
4726		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
4727		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
4728		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
4729		0.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
4730		.00	0.75	.00	0.08	.00	.00	.00	.00	.00	.00	AIR/NCK	
4731		.00	.00	0.75	.00	0.08	.00	.00	.00	.00	.00	AIR/TNK	
4732		.00	.00	.00	0.67	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
4733		.00	.00	.00	.00	0.67	.00	.00	.00	.00	.00	AIR/CAT/TNK	
4734		.00	.00	.00	.00	.00	0.67	.00	.00	.00	.00	CAT/NCK	
4735		.00	.00	.00	.00	.00	.00	0.67	.00	.00	.00	CAT/TNK	
4736		0.08	.00	.00	.00	.00	.00	.00	0.75	.00	.00	AIR	
4737		.00	.00	.00	.00	.00	.00	.00	.00	0.67	.00	CAT	
4738		.00	0.14	.00	0.14	.00	0.22	.00	.00	.00	0.89	NCK	
4739		.00	.00	0.25	.00	0.25	.00	0.33	.00	.00	.00	1.00	TNK
4740		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(SUBSEQUENT)
4741		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
4742		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
4743		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
4744		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
4745		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
4746		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
4747		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
4748		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
4749		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
4750		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

4751	4												
4752	**												
4753	**												
4754	**	2% AUDIT : INSPECT CATALYST & FUEL INLET (AND PLUMBTESMO)											
4755	**												
4756		1.00	1.00	1.00	1.00							EVAP/PCV	
4757		0.93	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
4758		.00	0.94	.00	0.01	.00	.00	.00	.00	.00	.00	AIR/NCK	
4759		.00	.00	0.94	.00	0.01	.00	.00	.00	.00	.00	AIR/TNK	
4760		.00	.00	.00	0.93	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
4761		.00	.00	.00	.00	0.93	.00	.00	.00	.00	.00	AIR/CAT/TNK	
4762		.00	.00	.00	.00	.00	0.93	.00	.00	.00	.00	CAT/NCK	
4763		.00	.00	.00	.00	.00	.00	0.93	.00	.00	.00	CAT/TNK	
4764		0.07	0.06	0.06	0.06	0.06	.00	.00	1.00	.00	.00	AIR	
4765		.00	.00	.00	.00	.00	.00	.00	0.93	.00	.00	CAT	
4766		.00	.00	.00	.00	.00	0.01	.00	.00	.00	0.94	NCK	
4767		.00	.00	.00	.00	.00	.00	0.01	.00	.00	.00	TNK	
4768		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
4769		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
4770		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
4771		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
4772		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
4773		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
4774		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
4775		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
4776		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
4777		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
4778		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
4779		0.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
4780		.00	0.70	.00	0.03	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
4781		.00	.00	0.70	.00	0.03	.00	.00	.00	.00	.00	.00	AIR/TNK
4782		.00	.00	.00	0.67	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
4783		.00	.00	.00	.00	0.67	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
4784		.00	.00	.00	.00	.00	0.67	.00	.00	.00	.00	.00	CAT/NCK
4785		.00	.00	.00	.00	.00	.00	0.67	.00	.00	.00	.00	CAT/TNK
4786		0.33	0.30	0.30	0.30	0.30	.00	.00	1.00	.00	.00	.00	AIR
4787		.00	.00	.00	.00	.00	.00	.00	.00	0.67	.00	.00	CAT
4788		.00	.00	.00	.00	.00	0.03	.00	.00	.00	0.70	.00	NCK
4789		.00	.00	.00	.00	.00	.00	0.03	.00	.00	.00	0.70	TNK
4790		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
4791		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
4792		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
4793		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
4794		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
4795		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
4796		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
4797		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
4798		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
4799		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
4800		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

4801	4												
4802	**												
4803	**												
4804	**	2% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET (AND PLUMBTESMO)											
4805	**												
4806		1.00	1.00	1.00	1.00							EVAP/PCV	
4807		0.93	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
4808		.00	0.94	.00	0.01	.00	.00	.00	.00	.00	.00	AIR/NCK	
4809		.00	.00	0.94	.00	0.01	.00	.00	.00	.00	.00	AIR/TNK	
4810		.00	.00	.00	0.93	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
4811		.00	.00	.00	.00	0.93	.00	.00	.00	.00	.00	AIR/CAT/TNK	
4812		.00	.00	.00	.00	.00	0.93	.00	.00	.00	.00	CAT/NCK	
4813		.00	.00	.00	.00	.00	.00	0.93	.00	.00	.00	CAT/TNK	
4814		0.02	0.01	0.01	0.01	0.01	.00	.00	0.95	.00	.00	AIR	
4815		.00	.00	.00	.00	.00	.00	.00	0.93	.00	.00	CAT	
4816		.00	.00	.00	.00	.00	0.01	.00	.00	.00	0.94	NCK	
4817		.00	.00	.00	.00	0.93	.00	0.01	.00	.00	.00	0.94	TNK
4818		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
4819		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
4820		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
4821		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
4822		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
4823		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
4824		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
4825		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
4826		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
4827		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
4828		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
4829		0.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
4830		.00	0.70	.00	0.03	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
4831		.00	.00	0.70	.00	0.03	.00	.00	.00	.00	.00	.00	AIR/TNK
4832		.00	.00	.00	0.67	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
4833		.00	.00	.00	.00	0.67	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
4834		.00	.00	.00	.00	.00	0.67	.00	.00	.00	.00	.00	CAT/NCK
4835		.00	.00	.00	.00	.00	.00	0.67	.00	.00	.00	.00	CAT/TNK
4836		0.08	0.05	0.05	0.05	0.05	.00	.00	0.75	.00	.00	.00	AIR
4837		.00	.00	.00	.00	.00	.00	.00	.00	0.67	.00	.00	CAT
4838		.00	.00	.00	.00	.00	0.03	.00	.00	.00	0.70	.00	NCK
4839		.00	.00	.00	.00	.00	.00	0.03	.00	.00	.00	0.70	TNK
4840		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
4841		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
4842		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
4843		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
4844		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
4845		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
4846		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
4847		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
4848		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
4849		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
4850		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

4851	4
4852	**
4853	** 2% AUDIT : INSPECT CATALYST & FUEL INLET ONLY
4854	** (I/M AREAS ONLY)
4855	**
4856	1.00 1.00 1.00 1.00 EVAP/PCV
4857	0.93 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4858	.00 0.97 .00 0.02 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4859	.00 .00 1.00 .00 0.07 .00 .00 .00 .00 .00 .00 AIR/TNK
4860	.00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4861	.00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4862	.00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 CAT/NCK
4863	.00 .00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 CAT/TNK
4864	0.07 0.03 .00 0.05 .00 .00 .00 1.00 .00 .00 .00 AIR
4865	.00 .00 .00 .00 .00 .00 .00 .00 0.93 .00 .00 CAT
4866	.00 .00 .00 .00 .00 0.02 .00 .00 .00 0.97 .00 NCK
4867	.00 .00 .00 .00 .00 .00 0.07 .00 .00 .00 1.00 TNK
4868	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4869	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4870	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4871	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4872	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4873	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4874	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4875	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4876	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4877	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4878	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4879	0.67 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4880	.00 0.75 .00 0.08 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4881	.00 .00 1.00 .00 0.33 .00 .00 .00 .00 .00 .00 AIR/TNK
4882	.00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4883	.00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4884	.00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 CAT/NCK
4885	.00 .00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 CAT/TNK
4886	0.33 0.25 .00 0.25 .00 .00 .00 1.00 .00 .00 .00 AIR
4887	.00 .00 .00 .00 .00 .00 .00 .00 0.67 .00 .00 CAT
4888	.00 .00 .00 .00 .00 0.08 .00 .00 .00 0.75 .00 NCK
4889	.00 .00 .00 .00 .00 .00 0.33 .00 .00 .00 1.00 TNK
4890	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4891	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4892	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4893	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4894	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4895	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4896	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4897	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4898	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4899	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4900	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 TNK

4901	4
4902	**
4903	** 2% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY
4904	** (I/M AREAS ONLY)
4905	**
4906	1.00 1.00 1.00 1.00 EVAP/PCV
4907	0.93 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4908	.00 0.95 .00 0.02 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4909	.00 .00 0.95 .00 0.02 .00 .00 .00 .00 .00 .00 AIR/TNK
4910	.00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4911	.00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4912	.00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 .00 CAT/NCK
4913	.00 .00 .00 .00 .00 .00 0.93 .00 .00 .00 .00 CAT/TNK
4914	0.02 .00 .00 .00 .00 .00 .00 0.95 .00 .00 .00 AIR
4915	.00 .00 .00 .00 .00 .00 .00 .00 0.93 .00 .00 CAT
4916	.00 0.02 .00 .00 .00 0.02 .00 .00 .00 0.97 .00 NCK
4917	.00 .00 0.05 .00 0.05 .00 0.07 .00 .00 .00 1.00 TNK
4918	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4919	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4920	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4921	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4922	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4923	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4924	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4925	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4926	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4927	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4928	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4929	0.67 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4930	.00 0.75 .00 0.08 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4931	.00 .00 0.75 .00 0.08 .00 .00 .00 .00 .00 .00 AIR/TNK
4932	.00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4933	.00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4934	.00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 .00 CAT/NCK
4935	.00 .00 .00 .00 .00 .00 0.67 .00 .00 .00 .00 CAT/TNK
4936	0.08 .00 .00 .00 .00 .00 .00 0.75 .00 .00 .00 AIR
4937	.00 .00 .00 .00 .00 .00 .00 .00 0.67 .00 .00 CAT
4938	.00 .00 .00 .00 .00 0.08 .00 .00 0.75 .00 .00 NCK
4939	.00 .00 0.25 .00 0.25 .00 0.33 .00 .00 .00 1.00 TNK
4940	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4941	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4942	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4943	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4944	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4945	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4946	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4947	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4948	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4949	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4950	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

4951	4
4952	**
4953	**
4954	** 5% AUDIT : INSPECT AIR PUMP ONLY
4955	**
4956	1.00 1.00 1.00 1.00 EVAP/PCV
4957	0.87 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
4958	.00 0.87 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4959	.00 .00 0.87 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
4960	.00 .00 .00 0.87 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4961	.00 .00 .00 .00 0.87 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4962	.00 .00 .00 0.13 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4963	.00 .00 .00 .00 0.13 .00 1.00 .00 .00 .00 .00 CAT/TNK
4964	.00 .00 .00 .00 .00 .00 .00 0.87 .00 .00 .00 AIR
4965	0.13 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4966	.00 0.13 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4967	.00 .00 0.13 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4968	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
4969	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4970	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4971	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4972	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4973	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4974	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4975	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4976	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4977	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4978	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4979	0.65 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
4980	.00 0.65 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/NCK
4981	.00 .00 0.65 .00 .00 .00 .00 .00 .00 .00 .00 AIR/TNK
4982	.00 .00 .00 0.65 .00 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
4983	.00 .00 .00 .00 0.65 .00 .00 .00 .00 .00 .00 AIR/CAT/TNK
4984	.00 .00 .00 0.35 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4985	.00 .00 .00 .00 0.35 .00 1.00 .00 .00 .00 .00 CAT/TNK
4986	.00 .00 .00 .00 .00 .00 .00 0.65 .00 .00 .00 AIR
4987	0.35 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4988	.00 0.35 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
4989	.00 .00 0.35 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
4990	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
4991	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
4992	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
4993	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
4994	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/TNK
4995	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 CAT/NCK
4996	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/TNK
4997	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 EGR
4998	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
4999	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
5000	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

5001	4												
5002	**												
5003	**												
5004	**	5% AUDIT : INSPECT CATALYST ONLY											
5005	**												
5006		1.00	1.00	1.00	1.00							EVAP/PCV	
5007		0.82	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
5008		.00	1.00	.00	0.18	.00	.00	.00	.00	.00	.00	AIR/NCK	
5009		.00	.00	1.00	.00	0.18	.00	.00	.00	.00	.00	AIR/TNK	
5010		.00	.00	.00	0.82	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
5011		.00	.00	.00	.00	0.82	.00	.00	.00	.00	.00	AIR/CAT/TNK	
5012		.00	.00	.00	.00	.00	0.82	.00	.00	.00	.00	CAT/NCK	
5013		.00	.00	.00	.00	.00	.00	0.82	.00	.00	.00	CAT/TNK	
5014		0.18	.00	.00	.00	.00	.00	.00	1.00	.00	.00	AIR	
5015		.00	.00	.00	.00	.00	.00	.00	0.82	.00	.00	CAT	
5016		.00	.00	.00	.00	.00	0.18	.00	.00	.00	1.00	NCK	
5017		.00	.00	.00	.00	.00	.00	0.18	.00	.00	.00	1.00	TNK
5018		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
5019		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
5020		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
5021		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
5022		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
5023		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
5024		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
5025		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
5026		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
5027		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
5028		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
5029		0.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
5030		.00	1.00	.00	0.48	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
5031		.00	.00	1.00	.00	0.48	.00	.00	.00	.00	.00	.00	AIR/TNK
5032		.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
5033		.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
5034		.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	CAT/NCK
5035		.00	.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	CAT/TNK
5036		0.48	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	AIR
5037		.00	.00	.00	.00	.00	.00	.00	.00	0.52	.00	.00	CAT
5038		.00	.00	.00	.00	.00	.00	0.48	.00	.00	.00	1.00	NCK
5039		.00	.00	.00	.00	.00	.00	0.48	.00	.00	.00	1.00	TNK
5040		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
5041		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
5042		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
5043		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
5044		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
5045		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
5046		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
5047		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
5048		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
5049		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
5050		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

5051	4												
5052	**												
5053	**												
5054	**	5% AUDIT : INSPECT AIR PUMP & CATALYST ONLY											
5055	**												
5056		1.00	1.00	1.00	1.00							EVAP/PCV	
5057		0.82	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
5058		.00	0.87	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/NCK	
5059		.00	.00	0.87	.00	0.05	.00	.00	.00	.00	.00	AIR/TNK	
5060		.00	.00	.00	0.82	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
5061		.00	.00	.00	.00	0.82	.00	.00	.00	.00	.00	AIR/CAT/TNK	
5062		.00	.00	.00	.00	.00	0.82	.00	.00	.00	.00	CAT/NCK	
5063		.00	.00	.00	.00	.00	.00	0.82	.00	.00	.00	CAT/TNK	
5064		0.05	.00	.00	.00	.00	.00	.00	0.87	.00	.00	AIR	
5065		.00	.00	.00	.00	.00	.00	.00	0.82	.00	.00	CAT	
5066		.00	0.13	.00	0.13	.00	0.18	.00	.00	.00	1.00	NCK	
5067		.00	.00	0.13	.00	0.13	.00	0.18	.00	.00	1.00	TNK	
5068		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
5069		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
5070		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
5071		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
5072		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
5073		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
5074		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
5075		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
5076		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
5077		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
5078		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
5079		0.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
5080		.00	0.65	.00	0.13	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
5081		.00	.00	0.65	.00	0.13	.00	.00	.00	.00	.00	.00	AIR/TNK
5082		.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
5083		.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
5084		.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	CAT/NCK
5085		.00	.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	CAT/TNK
5086		0.13	.00	.00	.00	.00	.00	.00	0.65	.00	.00	.00	AIR
5087		.00	.00	.00	.00	.00	.00	.00	.00	0.52	.00	.00	CAT
5088		.00	0.35	.00	0.35	.00	0.48	.00	.00	.00	1.00	.00	NCK
5089		.00	.00	0.35	.00	0.35	.00	0.48	.00	.00	.00	1.00	TNK
5090		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
5091		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
5092		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
5093		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
5094		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
5095		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
5096		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
5097		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
5098		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
5099		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
5100		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

5151	4												
5152	**												
5153	**	5% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY											
5154	**	(NON-I/M AREAS ONLY)											
5155	**												
5156		1.00	1.00	1.00	1.00							EVAP/PCV	
5157		0.82	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
5158		.00	0.87	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/NCK	
5159		.00	.00	0.87	.00	0.05	.00	.00	.00	.00	.00	AIR/TNK	
5160		.00	.00	.00	0.82	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
5161		.00	.00	.00	.00	0.82	.00	.00	.00	.00	.00	AIR/CAT/TNK	
5162		.00	.00	.00	.00	.00	0.82	.00	.00	.00	.00	CAT/NCK	
5163		.00	.00	.00	.00	.00	.00	0.82	.00	.00	.00	CAT/TNK	
5164		0.05	.00	.00	.00	.00	.00	.00	0.87	.00	.00	AIR	
5165		.00	.00	.00	.00	.00	.00	.00	0.82	.00	.00	CAT	
5166		.00	0.10	.00	0.10	.00	0.12	.00	.00	.00	0.97	NCK	
5167		.00	.00	0.13	.00	0.13	.00	0.18	.00	.00	.00	1.00	TNK
5168		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
5169		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
5170		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
5171		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
5172		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
5173		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
5174		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
5175		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
5176		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
5177		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
5178		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
5179		0.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
5180		.00	0.33	.00	0.13	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
5181		.00	.00	0.33	.00	0.13	.00	.00	.00	.00	.00	.00	AIR/TNK
5182		.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
5183		.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
5184		.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	CAT/NCK
5185		.00	.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	CAT/TNK
5186		0.13	.00	.00	.00	.00	.00	.00	0.33	.00	.00	.00	AIR
5187		.00	.00	.00	.00	.00	.00	.00	.00	0.52	.00	.00	CAT
5188		.00	0.20	.00	0.20	.00	0.33	.00	.00	.00	0.85	.00	NCK
5189		.00	.00	0.35	.00	0.35	.00	0.48	.00	.00	.00	1.00	TNK
5190		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
5191		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
5192		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
5193		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
5194		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
5195		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
5196		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
5197		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
5198		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
5199		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
5200		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

5251	4												
5252	**												
5253	**												
5254	**	5% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET (AND PLUMBTESMO)											
5255	**												
5256		1.00	1.00	1.00	1.00							EVAP/PCV	
5257		0.82	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT	(PREVIOUS)
5258		.00	0.86	.00	0.04	.00	.00	.00	.00	.00	.00	AIR/NCK	
5259		.00	.00	0.86	.00	0.04	.00	.00	.00	.00	.00	AIR/TNK	
5260		.00	.00	.00	0.82	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
5261		.00	.00	.00	.00	0.82	.00	.00	.00	.00	.00	AIR/CAT/TNK	
5262		.00	.00	.00	.00	.00	0.82	.00	.00	.00	.00	CAT/NCK	
5263		.00	.00	.00	.00	.00	.00	0.82	.00	.00	.00	CAT/TNK	
5264		0.05	0.01	0.01	0.01	0.01	.00	.00	0.87	.00	.00	AIR	
5265		.00	.00	.00	.00	.00	.00	.00	0.82	.00	.00	CAT	
5266		.00	.00	.00	.00	.00	0.04	.00	.00	.00	0.86	NCK	
5267		.00	.00	.00	.00	0.82	.00	0.04	.00	.00	.00	0.86	TNK
5268		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT	(PREVIOUS)
5269		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
5270		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
5271		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
5272		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
5273		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/NCK	
5274		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT/TNK	
5275		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	EGR	
5276		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	CAT	
5277		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	NCK	
5278		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK
5279		0.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (SUBSEQUENT)
5280		.00	0.57	.00	0.05	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
5281		.00	.00	0.57	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/TNK
5282		.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
5283		.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
5284		.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	CAT/NCK
5285		.00	.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	CAT/TNK
5286		0.13	0.08	0.08	0.08	0.08	.00	.00	0.65	.00	.00	.00	AIR
5287		.00	.00	.00	.00	.00	.00	.00	.00	0.52	.00	.00	CAT
5288		.00	.00	.00	.00	.00	0.05	.00	.00	.00	0.57	.00	NCK
5289		.00	.00	.00	.00	.00	.00	0.05	.00	.00	.00	0.57	TNK
5290		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
5291		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
5292		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
5293		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
5294		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
5295		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK
5296		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK
5297		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR
5298		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT
5299		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
5300		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

5301	4
5302	**
5303	** 5% AUDIT : INSPECT CATALYST & FUEL INLET ONLY
5304	** (I/M AREAS ONLY)
5305	**
5306	1.00 1.00 1.00 1.00 EVAP/PCV
5307	0.82 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (PREVIOUS)
5308	.00 0.94 .00 0.07 .00 .00 .00 .00 .00 .00 AIR/NCK
5309	.00 .00 1.00 .00 0.18 .00 .00 .00 .00 .00 AIR/TNK
5310	.00 .00 .00 0.82 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
5311	.00 .00 .00 .00 0.82 .00 .00 .00 .00 .00 AIR/CAT/TNK
5312	.00 .00 .00 .00 .00 0.82 .00 .00 .00 .00 CAT/NCK
5313	.00 .00 .00 .00 .00 .00 0.82 .00 .00 .00 CAT/TNK
5314	0.18 0.06 .00 0.11 .00 .00 .00 1.00 .00 .00 AIR
5315	.00 .00 .00 .00 .00 .00 .00 .00 0.82 .00 CAT
5316	.00 .00 .00 .00 .00 0.07 .00 .00 .00 0.94 NCK
5317	.00 .00 .00 .00 .00 .00 0.18 .00 .00 .00 1.00 TNK
5318	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (PREVIOUS)
5319	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
5320	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
5321	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
5322	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
5323	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
5324	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
5325	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
5326	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 CAT
5327	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 NCK
5328	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK
5329	0.52 .00 .00 .00 .00 .00 .00 .00 .00 .00 AIR/CAT (SUBSEQUENT)
5330	.00 0.65 .00 0.13 .00 .00 .00 .00 .00 .00 AIR/NCK
5331	.00 .00 1.00 .00 0.48 .00 .00 .00 .00 .00 AIR/TNK
5332	.00 .00 .00 0.52 .00 .00 .00 .00 .00 .00 AIR/CAT/NCK
5333	.00 .00 .00 .00 0.52 .00 .00 .00 .00 .00 AIR/CAT/TNK
5334	.00 .00 .00 .00 .00 0.52 .00 .00 .00 .00 CAT/NCK
5335	.00 .00 .00 .00 .00 .00 0.52 .00 .00 .00 CAT/TNK
5336	0.48 0.35 .00 0.35 .00 .00 .00 1.00 .00 .00 AIR
5337	.00 .00 .00 .00 .00 .00 .00 .00 0.52 .00 CAT
5338	.00 .00 .00 .00 .00 .00 0.13 .00 .00 0.65 NCK
5339	.00 .00 .00 .00 .00 .00 0.48 .00 .00 1.00 TNK
5340	1.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/CAT (SUBSEQUENT)
5341	.00 1.00 .00 .00 .00 .00 .00 .00 .00 .00 EGR/NCK
5342	.00 .00 1.00 .00 .00 .00 .00 .00 .00 .00 EGR/TNK
5343	.00 .00 .00 1.00 .00 .00 .00 .00 .00 .00 EGR/CAT/NCK
5344	.00 .00 .00 .00 1.00 .00 .00 .00 .00 .00 EGR/CAT/TNK
5345	.00 .00 .00 .00 .00 1.00 .00 .00 .00 .00 CAT/NCK
5346	.00 .00 .00 .00 .00 .00 1.00 .00 .00 .00 CAT/TNK
5347	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 EGR
5348	.00 .00 .00 .00 .00 .00 .00 1.00 .00 .00 CAT
5349	.00 .00 .00 .00 .00 .00 .00 .00 1.00 .00 NCK
5350	.00 .00 .00 .00 .00 .00 .00 .00 .00 1.00 TNK

5351	4													
5352	***													
5353	***	5% AUDIT : INSPECT AIR PUMP, CATALYST & FUEL INLET ONLY												
5354	***	(I/M AREAS ONLY)												
5355	***													
5356		1.00	1.00	1.00	1.00							EVAP/PCV		
5357		0.82	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)		
5358		.00	0.87	.00	0.05	.00	.00	.00	.00	.00	.00	AIR/NCK		
5359		.00	.00	0.87	.00	0.05	.00	.00	.00	.00	.00	AIR/TNK		
5360		.00	.00	.00	0.82	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK		
5361		.00	.00	.00	.00	0.82	.00	.00	.00	.00	.00	AIR/CAT/TNK		
5362		.00	.00	.00	.00	.00	0.82	.00	.00	.00	.00	CAT/NCK		
5363		.00	.00	.00	.00	.00	.00	0.82	.00	.00	.00	CAT/TNK		
5364		0.05	.00	.00	.00	.00	.00	.00	0.87	.00	.00	AIR		
5365		.00	.00	.00	.00	.00	.00	.00	.00	0.82	.00	CAT		
5366		.00	0.07	.00	0.02	.00	0.07	.00	.00	.00	0.94	NCK		
5367		.00	.00	0.13	.00	0.13	.00	0.18	.00	.00	.00	1.00	TNK	
5368		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (PREVIOUS)	
5369		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK	
5370		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK	
5371		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK	
5372		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK	
5373		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/NCK	
5374		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	CAT/TNK	
5375		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	EGR	
5376		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	CAT	
5377		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK	
5378		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK	
5379		0.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)	
5380		.00	0.65	.00	0.13	.00	.00	.00	.00	.00	.00	.00	AIR/NCK	
5381		.00	.00	0.65	.00	0.13	.00	.00	.00	.00	.00	.00	AIR/TNK	
5382		.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK	
5383		.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK	
5384		.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	.00	CAT/NCK	
5385		.00	.00	.00	.00	.00	.00	0.52	.00	.00	.00	.00	CAT/TNK	
5386		0.13	.00	.00	.00	.00	.00	.00	0.65	.00	.00	.00	AIR	
5387		.00	.00	.00	.00	.00	.00	.00	.00	0.52	.00	.00	CAT	
5388		.00	.00	.00	.00	.00	.00	0.13	.00	.00	.00	0.65	NCK	
5389		.00	.00	0.35	.00	0.35	.00	0.48	.00	.00	.00	.00	1.00	TNK
5390		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT (SUBSEQUENT)
5391		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
5392		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
5393		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
5394		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
5395		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	CAT/NCK
5396		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/TNK
5397		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	EGR
5398		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT
5399		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	NCK
5400		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	TNK

5401	4												
5402	***												
5403	***												
5404	***	NO PROGRAM (UNITY MATRIX)											
5405	***												
5406		1.00	1.00	1.00	1.00								EVAP/PCV
5407		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT (PREVIOUS)
5408		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK
5409		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
5410		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
5411		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	CAT/NCK
5412		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/TNK
5413		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	AIR
5414		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT
5415		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	NCK
5416		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	TNK
5417		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	EGR/CAT (PREVIOUS)
5418		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
5419		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
5420		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
5421		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
5422		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	CAT/NCK
5423		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/TNK
5424		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	EGR
5425		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT
5426		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	NCK
5427		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	TNK
5428		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	AIR/CAT (SUBSEQUENT)
5429		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/NCK
5430		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/TNK
5431		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/NCK
5432		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	AIR/CAT/TNK
5433		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	CAT/NCK
5434		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/TNK
5435		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	AIR
5436		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT
5437		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	NCK
5438		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	TNK
5439		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	EGR/CAT (SUBSEQUENT)
5440		1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/NCK
5441		.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/TNK
5442		.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/NCK
5443		.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	.00	EGR/CAT/TNK
5444		.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00	CAT/NCK
5445		.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	CAT/TNK
5446		.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	EGR
5447		.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	CAT
5448		.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	NCK
5449		.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	TNK
5450		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	